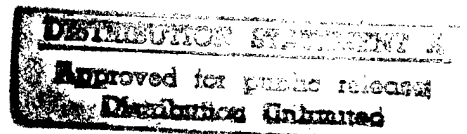


**ASSESSMENT OF DOD ELECTRIC POWER  
SUPPLY OPTIONS, STRATEGIES, AND  
COSTS UNDER RETAIL OPEN ACCESS**



**PREPARED FOR:**

**U.S. DEPARTMENT OF DEFENSE**

**OFFICE OF THE DEPUTY UNDER SECRETARY OF DEFENSE**

**AND**

**DEFENSE FUEL SUPPLY CENTER**

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## EXECUTIVE SUMMARY

This report, prepared under Contract No. SP0600-97-M-5726, provides an estimate of the level of savings that the DOD would realize over the 15-year analysis period (1997 through 2011) from the restructuring of the electric utility industry under current expectations regarding future policies likely to be adopted by the states. The report also addresses issues related to the future acquisition of power by the DOD in a competitive retail electric power market, including the degree to which competitive solicitations for electric power should reflect the aggregated loads of multiple DOD installations, the degree to which the competitive power supply procurement function should be centralized, and the cost implications associated with the use of federal hydropower currently purchased by certain DOD installations from the Western Area Power Administration (Western) and the Southwestern Power Administration. Other topics addressed in this report include a description of current electric power markets, the expected changes that will affect the future structure of these markets, the status of state and federal legislation related to industry restructuring, and several other issues potentially affected by restructuring, such as efforts being undertaken by the DOD to privatize on-base utility systems and DOD's efforts to implement energy conservation and demand-side management projects.

Approximately 40 states are either considering restructuring the electric power industries within their borders, have committed to restructuring, or have passed legislation or regulations requiring restructuring. The restructuring of the electric utility industry will change the way in which DOD installations throughout the U.S. will purchase electric power supplies. Historically, nearly all DOD installations were required to purchase electric power supplies from the franchised utility in accordance with state law and federal regulations. Following restructuring, DOD installations will be able to competitively procure power supplies, though transmission and distribution will remain monopoly services provided by franchised utilities under regulation by state utility regulatory commissions. The cost implications to the DOD from the change in the industry structure were estimated by first developing base year (FY 1996) estimates of electric energy usage and costs for the DOD (CONUS) on an installation-by-installation basis. Future real (inflation-adjusted) costs under regulated rates and alternatively under competitive rates were developed from escalators derived from a recent comprehensive analysis prepared by the U.S. Department of Energy, Energy Information Administration (EIA). Application of these escalators permitted the development of two alternative electric power price series for each DOD installation: one for prices under retail competition and one for prices under continued regulation. The difference between the competitive price and the regulated price represents the estimated per-kWh savings that the DOD would realize under competitive market conditions.

Real (i.e., inflation-adjusted) savings available to the DOD over the 1997 through 2011 period as a result of restructuring of the electric utility industry are estimated to be \$412.9 million (1996 dollars), or 2.6 percent of total DOD electric power supply expenditures. Savings are estimated to be \$280.7 million in present value terms over the same period, or approximately 2.4 percent of present value power supply costs. Of the total present value savings, 26.9 percent accrue

to the Air Force, 30.7 percent to the Army (including the Defense Logistics Agency and the National Security Agency), and the remaining 42.4 percent to the Navy (including the Marine Corps).

Currently, electric power requirements are procured at the base level under several alternative contract mechanisms. An analysis of advantages and disadvantages associated with centralization of the power procurement function at the DOD level, and alternatively at the service branch level, indicated that centralization of the power supply procurement function in a competitive environment provides important, though unquantifiable, advantages over the current power procurement arrangements. Neither centralization of the procurement function at the DOD level nor centralization of the procurement function at the service branch level provides unambiguous net advantages over the other.

One of the fundamental reasons why centralization of the electric power procurement function under competitive market conditions is preferred to procurement conducted at the base level is that benefits are likely to accrue to the DOD as a result of aggregating electric power loads of multiple installations into a single solicitation. Aggregation of electric power loads under a single competitive solicitation will provide the DOD with greater market leverage (compared to solicitations restricted to the electric power loads at individual installations) and should also provide the DOD with the potential cost savings benefits related to load diversity. Because different installations will establish their maximum monthly peak demand (kilowatts) at different times of the month, aggregating installations will result in the establishment of a joint (coincident) peak demand that is lower than the sum of the peak demands for the individual installations. This differential is referred to as diversity. To obtain the maximum benefits from diversity in a competitive electric power environment, it is recommended that the market (i.e., offerors) be permitted to aggregate the loads of some or all of the installations included in the solicitation to minimize costs. This removes the burden of having the government identify the most cost-effective combination of installation loads and allows offerors to fully avail themselves of market opportunities. It is estimated that the advantages associated with market leverage, the second benefit of combining multiple loads in a single solicitation, can be achieved by structuring competitive solicitations that represent aggregate loads of between 75 and 125 megawatts (mW).

Centralization of the electric power procurement function is not anticipated to have any implications for reduced staffing at the base level. All power supply functions currently performed at the base level other than procurement, which has historically been performed once every ten years, will continue to be performed at the base level. Additionally, the power usage recording and reporting function, conducted at the base level, is anticipated to expand to accommodate the information requirements associated with competitive acquisition.

With the implementation of retail open access, the DOD may not be able to retain the historical levels of savings associated with the use of federal preference power purchased from federal power marketing agencies. In California, where the DOD purchases approximately 610,000 mWh per year from the Western Area Power Administration's Central Valley Project at a cost to the DOD of approximately \$18 million, the DOD saves approximately \$23 million in power supply

costs each year. This level of savings will likely be reduced over the next several years by as much as \$10 million per year as a result of potentially higher transmission (wheeling) charges and substantial reductions in the amount of Western federal preference power available. Insufficient information presently exists to assess whether DOD installations in other parts of the country may also be adversely affected through the impact of restructuring on power supply costs related to deliveries of federal preference power.

# 1. INTRODUCTION AND SUMMARY

## 1.1 INTRODUCTION

Over the last several years, there has been increasing recognition that electric power rates in many parts of the country are above competitive market levels. The reason for the difference between regulated and competitive rates rests in dramatic changes to the generation segment of the industry. Numerous factors have combined to drive up the generation costs that are recovered under regulation. At the same time, significant changes in generation technology and reductions in fuel prices have reduced the cost of power from new generating facilities, driving down competitive prices for generation. Similar changes have not affected the transmission and distribution sides of the business; therefore, the generation market is the focus of competitively-spurred reductions in electricity prices.

The sales levels suggested by utilities' demand forecasts, which were the basis for constructing new generating capacity, often failed to materialize, leaving utilities with excess generating capacity that they were obliged to sell at prices below full embedded cost. In other instances, utilities constructed nuclear generating capacity at costs well in excess of anticipated levels. Beyond this, the requirements of the Public Utilities Policy Act of 1978 (PURPA) required utilities to execute power purchase agreements on the basis of 20-year forecast prices that were later seen to be excessively high. Finally, utilities were required to undertake numerous conservation initiatives, such as demand-side management (DSM) programs, that were not reflected in the market prices available from competitors.

Competitive market prices have been driven below the higher, regulated prices established under the existing regulatory environment for a number of reasons. As noted above, excess capacity in many parts of the country placed downward pressure on the cost of power available in wholesale markets, the markets in which power is traded among utilities and other wholesale customers. A second factor driving down competitive market prices was the adoption of the Energy Policy Act

of 1992, which conferred upon the Federal Energy Regulatory Commission (FERC) the authority to order transmission service, which served to reduce transmission bottleneck problems and spur wholesale competition.

Another, perhaps more significant factor placing downward pressure on competitive market rates, is the development of new generating technologies. New combined cycle generating units are projected to have efficiencies of about 50 percent, roughly 17 percentage points greater than the efficiencies characterizing the base load generating units that were most often the source of generation used by traditional utilities. This fact, coupled with large reductions in gas prices (the principal fuel used by combined cycle units) over the last few years, has made it less costly to construct and generate electricity from a new generating unit than from many existing units.

Although many retail customers have argued that they should be permitted to purchase electricity from competitive suppliers, until recently these arguments have largely failed. Under the traditional regulatory scheme, retail service was provided under a so-called regulatory compact. In exchange for incurring an obligation to provide service to all customers and to plan for growth in load, traditional utilities were granted an exclusive right to provide service in a certificated service area. The rates of such utilities were comprehensively regulated at the state level, with rates set so as to provide each utility the opportunity to earn a fair return on its investment.

In response to the acceleration of competition in wholesale markets, states have begun to adopt retail restructuring programs that will permit customers to shop among alternative suppliers of electricity in much the same way that they are able to choose among alternative suppliers of telephone service. The pace of such retail restructuring efforts has been uneven, with only 17 of the lower 48 states having announced or implemented plans to restructure. Numerous other states, however, have announced plans to consider the issue, either through legislation at state legislatures or through the actions of public service commissions.

The Department of Defense (DOD) installations in the U.S. are retail customers of electric power service and, under existing legislation and regulations, purchase power at regulated rates. As retail open access is implemented, DOD installations must change the method by which they have traditionally purchased electric power. Because DOD installations, in aggregate, incur electric power supply costs in excess of \$1 billion per year, it is imperative that the DOD take full advantage of potential power supply cost savings, and do so in an efficient and effective manner.

This report presents an assessment of the extent to which savings in electric power costs will be realized by DOD as restructuring is implemented. The analysis reflects the uneven pace at which retail restructuring is taking place across the nation and the transitional impediments, such as the recovery of utilities' stranded costs, that delay the realization of immediate cost savings. We also consider a number of alternative procurement strategies for securing competitive electricity supplies and identify important considerations that are likely to affect competitive power supply procurement by DOD installations.

Chapter 2 of this report presents our base year estimate of DOD energy use and expenditures, which forms the basis of the savings estimates developed later in the report. This chapter also addresses current DOD procurement methods and provides a comparison between the natural gas and electric utility industries.

Chapter 3 discusses the current and future electric power market, the effects of recent legislation and regulatory orders, and proposed legislation at the federal and state levels.

Chapter 4 presents the development of our estimates of savings likely to be achieved by the DOD given a set of reasonable assumptions regarding future deregulation activities. To the maximum extent possible, the impacts of existing state legislation and regulatory orders affecting stranded cost recovery and rate freezes or reductions are incorporated into the estimates.

Chapter 5 addresses potential centralization of the power supply procurement function. Chapter 6 discusses issues related to aggregation of DOD loads.

Chapter 7 of the report addresses certain miscellaneous issues related to competitive procurement of electric power, including privatization of on-base utility systems, using power supply savings to fund energy conservation and infrastructure improvement projects, data base requirements, unbundling ancillary services, and issues related to the costs of federal preference power to DOD installations in Northern California. Also discussed in this chapter are issues related to soliciting for bundled power supply and energy conservation/demand-side management services, the impacts of control area boundaries on DOD solicitations, and risk management strategies employed by utilities.

## **1.2 SUMMARY OF RESULTS AND FINDINGS**

The following major findings and conclusions emerged from this analysis:

1. The cost of DOD (CONUS) purchases of electric power supplies in FY 1996 was \$1.1 billion.
2. Dates by which retail open access will be implemented have been articulated by 17 states. The majority of the remaining states have begun to address open access issues.
3. Total estimated savings to the DOD over the 1997 to 2011 period are \$281 million (present value \$ 1996), or 2.4 percent.
4. Some degree of centralization of the competitive acquisition function is desirable. Both identified alternatives (centralization at the DOD level and centralization at the service branch level) entail advantages and disadvantages. Neither approach is clearly preferred to the other.
5. It is desirable to combine multiple installations in a competitive acquisition, with loads aggregated by the offerors rather than by the government.
6. It is recommended that ancillary services be purchased on a bundled basis with electric power supplies.



7. Power supplies and energy conservation/demand-side management services should not be procured through a bundled solicitation.
8. The DOD is at risk for foregone savings of approximately \$10 million per year related to purchases of Western Area Power Administration Central Valley Project Power under California restructuring.

## **2. PROCUREMENT BASELINE**

### **2.1 INTRODUCTION**

This chapter addresses the development of the base year estimates for DOD purchases of electricity in terms of both costs and megawatt-hours. The base year estimate described and presented in this chapter is the cornerstone for the projected DOD cost and savings estimates related to electric utility industry restructuring that are presented in Chapter 4.

Also addressed in this chapter are the current electric power procurement practices of the DOD. The discussion of the current practices provides necessary background for the discussion of alternative procurement strategies presented in Chapter 5. This discussion also bears on the analysis of other issues addressed later in this report, including use of savings for energy conservation and infrastructure improvements, aggregation of loads in a competitive acquisition environment, privatization of on-base utility systems, and issues related to DOD purchases of electricity from federal power marketing agencies.

### **2.2 CURRENT PURCHASES**

In order to create a meaningful estimate of the potential savings available under customer choice, a baseline reflecting current usage patterns and costs is required. The baseline is also needed to provide a context for the estimated savings levels. The baseline used in this report includes FY 1996 total dollar costs and megawatt-hour (mWh) purchases of electric power made by all DOD installations in the 48 contiguous states (CONUS). Data were obtained from the Defense Utility Energy Reporting System (DUERS) report for the Navy, Air Force, Marine Corps, and the Defense Logistics Agency (DLA).

The DUERS data for the Army represented only about 40 percent of total Army usage. Consequently, an alternative source was required to develop the Army's base year cost and usage estimates. The Army data were developed from the Army Power Procurement Office (APPO) Red

Book, which, unlike the DUERS report, does represent a reasonably comprehensive accounting of electric power purchases by Army installations.

The base year data were constructed to separately identify DOD power requirements satisfied by purchases of federal preference power procured from the federal power marketing agencies (PMAs). PMA power was separated from other power purchases for two fundamental reasons. First, PMA power provided to the DOD is priced at a rate typically below the market price of power. The PMAs are, in general, required to set prices to cover operating costs, including debt servicing, and are precluded from setting prices at market rates in most instances. Consequently, restructuring is not expected to have any significant, systematic effect on the cost of PMA power. This last statement notwithstanding, it is recognized that there is substantial uncertainty regarding the impact of restructuring on the availability and ultimate cost of PMA power delivered to military installations. For example, in some states, open access may increase transmission costs of PMA power; in other states, the amount of PMA power made available to the DOD may be significantly reduced. Finally, it can be expected that some PMA power purchased by the DOD will be exempt from stranded cost charges, and other PMA power will not. The lines of demarcation regarding the applicability of stranded cost charges to PMA power are presently unclear. As a consequence of these factors, the savings calculations presented later in this report exclude consideration of PMA purchases, which are addressed separately. The base year figures presented also exclude power purchased by the DOD from PMAs.

After the usage and cost information from DUERS and the APPO Red Book was annualized, data were then disaggregated into loads for main base (MB) and all military family housing (MFH) areas. The Navy, Air Force, and Marine Corps explicitly labeled all MFH usage, and those loads were included in the baseline. The Red Book data used for the Army, however, does not separate main base usage from usage in the military family housing areas. All usage for the Army was assumed to be for the main base.

Several installations for each of the branches have been identified for closure under the Base Realignment and Closure Act (BRAC), and total DOD power requirements will decline as the BRAC installations are shut down, other things equal. For the purposes of the baseline, all bases identified under BRAC were excluded from this analysis. To the degree that missions at BRAC bases are transferred to other bases, it was assumed that the increases in load will be offset, in aggregate, by energy usage reductions made pursuant to the requirements of the Energy Policy Act of 1992 and Executive Order No. 12902.

It is important to note a serious shortcoming associated with the data obtained from the APPO's Red Book. The Red Book lists only "host installations." Host installations administer their own power purchases as well as the power purchases for some number of subinstallations. The usage and cost data contained in the Red Book does not disaggregate data among the subinstallations, but rather represents all purchases (mWh and dollars) as host installation purchases. Subinstallations may, or may not, be located in the same state as the host installation and may not even be located in the same geographic area.

For example, the Red Book entry for Fort Lewis, Washington also includes usage for the Presidio of Monterey and Fort Ord, California, as well as numerous other bases. Therefore, the Army data, unlike the data for the other service branches, do not provide an accurate state-by-state breakdown of actual power usage and costs. As a consequence, the analysis of cost savings, which are computed on a state-by-state basis, may over- or understate true savings, depending on the extent to which subinstallation loads are attributed to incorrect regions.

Table 2.1, below, provides state-by-state FY 1996 actual energy usage and total power costs for the Department of Defense. Table 2.2 provides the breakdown of total usage and cost by branch of service. Figure 2.1 graphs the usage and total cost for the ten states in which DOD installations incur the greatest total expenditures for electric power.

**Table 2.1**  
**Department of Defense**  
**Base Year Electricity Usage and Cost by State**  
**(Thousands of MWh, Thousands of Dollars)**

	<u>FY 1996 Usage</u> <u>(Thous. of MWh)</u>	<u>FY 1996 Cost</u> <u>(Thous. of \$)</u>
Alabama	735	35,414
Arkansas	113	6,297
Arizona	337	23,092
California	2,368	154,165
Colorado	339	15,218
Connecticut	187	12,221
D.C.	620	30,143
Delaware	76	4,068
Florida	1,529	74,898
Georgia	1,232	54,720
Idaho	76	2,274
Illinois	374	18,807
Indiana	129	4,698
Kansas	289	13,579
Kentucky	482	19,538
Louisiana	358	18,488
Massachusetts	158	11,869
Maryland	1,431	74,191
Maine	52	3,997
Michigan	66	4,162
Minnesota	41	1,987
Missouri	208	10,653
Mississippi	278	12,797
Montana	85	3,789
North Carolina	1,200	65,210
North Dakota	211	8,900
New Hampshire	74	4,978
New Jersey	413	34,265
New Mexico	365	21,423

**Table 2.1 (cont'd.)**  
**Department of Defense**  
**Base Year Electricity Usage and Cost by State**  
**(Thousands of MWh, Thousands of Dollars)**

	<u>FY 1996 Usage</u> <u>(Thous. of MWh)</u>	<u>FY 1996 Cost</u> <u>(Thous. of \$)</u>
Nevada	157	8,422
New York	274	20,116
Ohio	537	23,952
Oklahoma	448	16,811
Oregon	2	99
Pennsylvania	346	20,917
Rhode Island	107	9,498
South Carolina	530	23,302
South Dakota	73	2,192
Tennessee	652	20,908
Texas	1,778	81,509
Utah	315	11,608
Virginia	2,176	94,789
Washington	967	32,836
Wisconsin	33	1,303
West Virginia	28	1,169
Wyoming	58	3,076
Total	22,307	1,118,348

As seen from Table 2.1, there is significant disparity in the level of DOD energy usage and corresponding costs among the 48 contiguous states. California represents the state with both the greatest level of FY 1996 usage (2.4 million mWh) and costs (\$154 million). The total power cost in California in FY 1996 was approximately 63 percent higher than the second highest expense state (Virginia), though mWh usage in Virginia was only 9 percent lower than usage in California. The state exhibiting the lowest usage and cost is Oregon, with FY 1996 expenditures of less than \$100,000.

From Table 2.2, it is shown that the Navy (including the Marine Corps) is responsible for approximately 38 percent of total power costs. This compares with 33 percent for the Army and 29 percent for the Air Force. The Navy's cost responsibility share is slightly in excess of its share of

total mWh, which is 36.5 percent. The reason for this disparity is the Navy presence in California, a relatively high-cost state. For opposite reasons, the Air Force is responsible for 31 percent of power use, approximately two percentage points higher than its share of total costs.

The detailed base year usage and cost data on a base-by-base and state-by-state basis is contained in Appendix A.

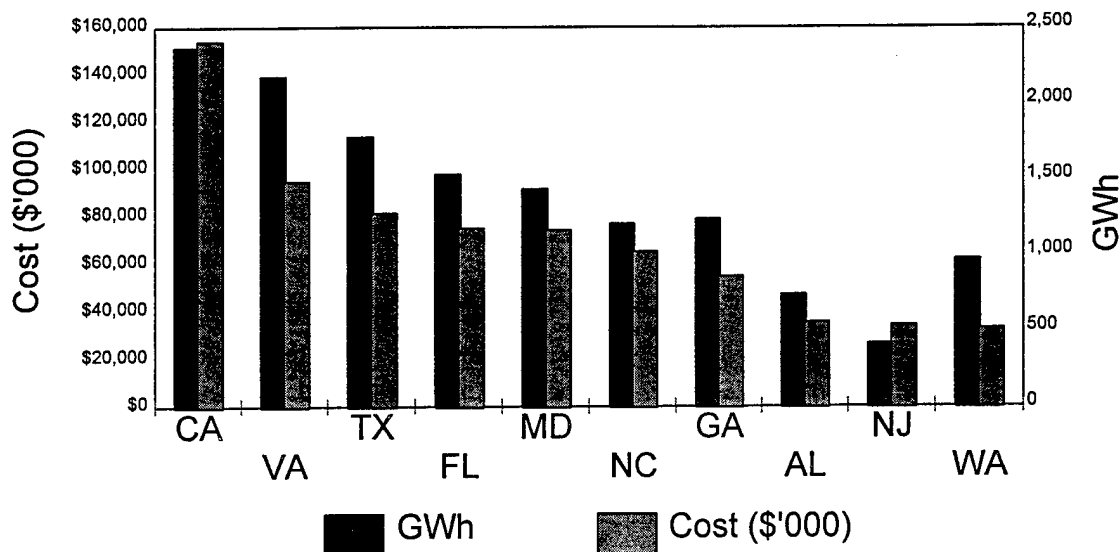
**Table 2.2**  
**Department of Defense**  
**Base Year Electricity Usage and Cost**  
**by Service Branch**  
**(Thousands of MWh, Thousands of Dollars)**

<u>Service Branch</u>	<u>FY 1996 Usage</u> <u>(Thous. of MWh)</u>	<u>FY 1996 Cost</u> <u>(Thous. of \$)</u>
Air Force	6,937	\$321,293
Army*	7,160	368,122
Navy	7,030	361,322
Marine Corps	1,181	67,611
Total**	22,307	1,118,348

\* Includes DLA usage and costs.

\*\* Total may not sum due to independent rounding.

**Figure 2.1**  
**Highest DOD Power Cost States**  
**(FY 1996)**



### 2.3 CURRENT PROCUREMENT PRACTICES

Under current laws and regulations, military installations are generally precluded from competitively procuring electric power supplies. While there are some exceptions to this general rule which are discussed later in this section, military installations are considered retail customers and the franchised utility maintains a right (as well as an obligation) to serve the load.

As retail customers in exclusive franchise areas, military bases purchase all power requirements from the franchised utility.<sup>1</sup> The serving utility may be an investor-owned utility (IOU), an electric cooperative, or a municipal utility. IOUs are for-profit corporations owned by

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<sup>1</sup>The exceptions to this are self-generated power for emergency standby or other self-generation as may be undertaken and purchases of federal preference power that may be available from a federal power marketing administration.



shareholders, with rates approved by state utility regulatory commissions; electric cooperatives (co-ops) and municipal utilities (munis) are not-for-profit organizations owned by the utility's customers or the municipality, respectively.<sup>2</sup> In general, co-ops and municipal utilities are self-regulating, and their rates are for the most part not subject to review and approval by the state utility regulatory commission.

For power supplies procured from an IOU, the base generally receives power deliveries under the most favorable, applicable tariff and, like any other customer, retains the right to intervene before the state utility regulatory commission on issues of concern when the utility files for a change in rates.

Contracts for the provision of electric power service can either be between the base and the utility or service to the base can be specified in Exhibit A, which is attached to a General Services Administration (GSA) area-wide contract with the utility. If a GSA area-wide contract exists, the base is not obligated to receive service under that contract but can opt to receive service under a separate contract.

Utility service contracts can have a definite term of no more than ten years. The length of the definite term contained in virtually all definite-term contracts is set at the maximum allowable for reasons of convenience and administrative cost minimization. It is also possible to enter into indefinite term utility service contracts, though there are relatively few indefinite-term contracts as a matter of policy. Instances also exist where service is taken without the existence of a contract. This circumstance generally arises for one of two reasons. One reason is that, upon expiration of the previously existing contract, the government and the utility are unable to quickly come to agreement on the terms of a replacement contract. During the period of time between contracts, power is purchased under the conditions stipulated in the Company's approved tariff. The second reason is

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<sup>2</sup>A more detailed discussion of the differences among IOUs, co-ops, and munis is contained in Chapter 3 of this report.

that utilities are sometimes unwilling to enter into a contract with the government, typically because of the utility's reluctance to agree to certain mandatory FAR clauses. The conditions under which the base receives power under this circumstance are identical to the conditions under which the base receives power in the "between contracts" situation.

Occasionally, a base may be able to negotiate a discounted rate with the IOU that may be available due to a variety of special circumstances. Such a discounted rate may be offered to induce the base to forego alternative power supply options, such as cogeneration or self-generation or some other form of system bypass. Discounted rates or other special rate arrangements have been offered to military bases in recent years to reduce the base's chances of being closed as a result of the BRAC process, and to avoid the potential of competitive acquisition of power supply where the base may (arguably) have been able to compete its electric load. Such negotiated rate arrangements require the approval of the state utility regulatory commission.

In the case where service is provided by a muni or a co-op, the same contract arrangements exist as contained in contracts with IOUs with the notable exception that rates are periodically renegotiated. Because munis and co-ops are self-regulating, and rates are therefore not subject to approval by the state utility regulatory commission, protection for the government needs to be explicit in the contract to avoid the potential of excess cost coverage responsibility being placed on the government. The negotiated rates clause provides this protection that would otherwise be provided by the state regulatory commission.

In addition to basic power supply agreements, additional agreements, either folded into the utility service contract or developed on a stand-alone basis, are in place at many military installations. These agreements include:

- energy conservation/demand-side management agreements;
- agreements to wheel federal preference power; and
- other agreements related to utility/base cooperation.

Each of the service branches maintains an office whose function is to provide broad support to the bases and the commands on issues dealing with utility services (electric power, natural gas, water/sewer). In addition to providing support services, the utility support centers also coordinate among themselves and with DOD in addressing policy issues and in developing and implementing programs affecting the use and/or costs of utility services. The three utility centers are staffed with engineers, attorneys, and contracting specialists who are available to assist the bases and commands in addressing a wide range of problems and opportunities. The utility support centers perform an important function given the technically complex nature of utility service, coupled with the circumstance that utility service contracts under current arrangements are typically renegotiated only every ten years. The long contract period means that contracting personnel at the individual bases do not have any substantial opportunity to gain expertise in utility service contracting issues.

The development and maintenance of utility service procurement expertise is critical to ensuring that the special power supply needs of military bases are met. Additionally, expertise is required to help identify opportunities to reduce costs or improve utility service arrangements with minimum cost effects. The need for technical, contracting, legal, and institutional knowledge is made more important due to the special power supply requirements associated with base missions. In many circumstances, bases require higher levels of power supply reliability than the utility is obligated to provide. Utilities are required, under the franchise agreement, to provide customers with facilities sized and configured to satisfy the customer's load requirements. This typically entails a single radial feed and the minimal transformer configuration necessary to meet the customer's peak demand plus a small allowance for growth. For purposes of reliability, military bases often prefer more than the minimal system. For example, transformers within a substation can be sized and configured in such a way that, in the event of a blown transformer, power can automatically be rerouted so that power flows to the base are not interrupted.

There are alternative means to enhance the reliability of service including: engineering upgrades provided by the utility, as described above; engineering upgrades on the base's side of the meter, such as the installation of uninterruptible power supply (UPS) systems; and the installation

of on-base generating equipment to provide emergency back-up to critical facilities in the event of power supply interruptions. Other methods have also been employed to enhance the reliability of service as opportunities have arisen. For example, McClellan Air Force Base reached an agreement with its serving utility, the Sacramento Municipal Utility District (SMUD), to have SMUD install a 50-mW power plant on-base. The plant was owned and operated by SMUD as a system resource. In exchange for the site for the plant and use of some of the base's emission permits to run the plant, SMUD agreed to make that plant available to the base in the case of a grid failure. As a result of that arrangement, and at virtually no cost to the base, the base was able to obtain emergency back-up power supply for the full base load.

It should be noted that many military installations do not require reliability in excess of system reliability for the bulk of their loads; there are, however, several installations that require very close to 100 percent power reliability. These high levels of reliability can only be approached through multiple back-up arrangements, e.g., on-base generation plus a UPS system plus a dual feeds from the serving utility from different portions of the utility's grid.

In addition to reliability considerations that, in general, exceed those of most private industrial-size customers, power supply security is also a concern for military installations. To the extent practical, transmission-voltage to distribution-voltage substations are located "inside the fence." It is widely recognized, however, that the utility's transmission system is exposed from a power supply security perspective. This fact serves to seriously limit the effectiveness of security measures taken at the base level.

One way to augment both power supply reliability and power supply security is through the installation of on-base generating units. These units, used almost exclusively for emergency back-up, are generally dedicated to serve all, or a portion, of the power requirements for particular buildings housing critical loads. The units, most typically sized between 100 kW and 500 kW, are not configured to run in parallel with the utility and consequently cannot easily accommodate

activities such as peak-shaving.<sup>3</sup> The running costs of these units are high compared to the cost of purchasing energy from the supplying utility. Consequently, it is rarely economic to run the emergency back-up generators to provide energy to supplant energy purchases from the serving utility. Additionally, there may be environmental constraints which limit the number of hours that these units can be run. While these constraints generally tend to be non-binding if the units are run for emergency back-up only, use of the units for other purposes in addition to emergency back-up may not be possible for particular installations.

Many military installations have access to low-cost federal preference power generated predominantly from hydroelectric plants. The federal preference power, marketed by federal power marketing administrations, is reserved for use by federal and state government customers and municipal utilities and electric cooperatives. It cannot be sold to investor-owned utilities or to private corporations. Under the current regulatory framework, for a retail customer to receive deliveries of federal preference power, the customer must either have a direct connection into the PMA transmission grid, or the customer's serving franchised utility must agree to transmit (i.e., wheel) the PMA power. Virtually all PMA power is delivered under the second arrangement.

It is important to note that under current regulations, as described in the following section of this chapter, utilities are not required to wheel power from alternative sources to end-use customers. As a consequence, some of the arrangements that have been entered into to secure delivery of low-cost federal preference power reflect the monopoly position of the serving utility, that is, many of the contractual arrangements result in a significant portion of the available savings being absorbed by the serving utility rather than by the base. This circumstance, however, is far

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<sup>3</sup>Peak-shaving refers to a customer using customer-owned generation during the period of the customer's peak demand to reduce the level of kW demand for which the customer is billed for that month.

from universally applicable; many of the arrangements in place to have federal preference power wheeled to military bases have permitted the base to obtain significant savings.<sup>4</sup>

The DOD purchases approximately 950,000 mWh per year from the Western Area Power Administration at a cost of approximately \$23 million. Additionally, approximately 174,000 mWh per year are purchased from the Southwestern Power Administration at a cost of approximately \$2.5 million. Total savings are estimated to be between \$35 million and \$40 million per year.

Under restructuring, significant changes in the savings accruing to the DOD from reliance on federal preference power can be expected. For some bases, savings should increase, particularly for those bases that have had federal preference power allocations for many years (and hence likely to be exempt from stranded cost charges) under costly wheeling arrangement terms (which likely would be improved upon). For other bases, the savings available from federal preference power may be reduced significantly. Some bases receiving Western power in California, for example, may be required to pay Competition Transition Charges, which are not currently paid; reductions to the amounts of Western power available may be significantly reduced; and increases in the wheeling charges may be implemented. While significant levels of uncertainty exist, on balance it appears that total savings available to the DOD from the use of federal preference power is likely to decline. This issue is addressed more fully in Chapter 7 of this report.

## **2.4 THE CURRENT LEGAL AND INSTITUTIONAL ENVIRONMENT**

There is no legislation or regulatory mandate at the national or any state level currently in place that requires utilities to wheel power for end-users, i.e., retail customers. In fact, the existing

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<sup>4</sup>One of the functions that the utility service centers provide for each of the service branches is assistance in addressing issues related to federal preference power, including assistance in developing wheeling contracts, identifying and transferring preference power to those bases where power supply cost savings are greatest, and facilitating the accommodation of administrative requirements of the PMAs.

legislation and regulations addressing retail wheeling in states that have not enacted restructuring legislation are aimed at reinforcing the prohibitions against retail wheeling.

Congress originally considered and rejected mandatory retail wheeling when the Federal Power Act, Part II (FPA) was enacted in 1935.<sup>5</sup> Congress did, however, grant the FERC limited authority to order wheeling under the 1978 Public Utility Regulatory Policy Act (PURPA) amendments to the FPA (Sections 211 and 212). This authority to order wheeling was restricted to situations where wheeling "would reasonably preserve existing competitive relationships." The courts rejected subsequent attempts by the Commission to extend the wheeling mandate for purposes of enhancing competition or to remedy discrimination.

Several utility merger proceedings occurring within the last few years have caused various wheeling issues to be addressed. Section 203 of the FPA requires the Commission, in considering a utility merger, to make a determination that any proposed merger is "consistent with the public interest." Additionally, the courts have required the Commission to consider antitrust as part of the public interest determination.<sup>6</sup> Consequently, the Commission has adopted the position that it has the power to condition approval of a merger on the voluntary acceptance of transmission access conditions (to alleviate probable anticompetitive effects of the merger), but not the power to order mandatory wheeling. The Commission, however, has *consistently excluded end-users* (i.e., retail customers) and Qualifying Facilities (QFs), except under certain conditions, from the list of eligible transporters afforded unconditional access to the transmission system.

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<sup>5</sup>As originally conceived, Part II of the FPA would have included a common carrier provision making it the duty of every public utility to "transmit energy for any person upon reasonable request." H.R. 5423, 74th Cong., 1st Sess; S. 1725, 74th Cong., 1st Sess [1935]. These provisions were eliminated to protect the rights of utility companies.

<sup>6</sup>This is not to suggest that any regulatory agency has jurisdiction to determine violations of the antitrust laws. The antitrust laws are simply a tool which the regulatory agency may employ in order to give meaning or context to the statutory concept of public interest.

In the Utah/PacifiCorp merger (Docket No. EC88-2-007), the Commission in late 1991 reaffirmed its stance on the exclusion of end-users and QFs from the mandatory wheeling provisions contained in its ruling granting authority for the merger. The Commission found that an order requiring the merged entity to give transmission access to QFs would contravene the PURPA and the FPA and that only QF access conditioned upon QFs waiving their mandatory purchase rights under PURPA (to ensure consumers would be served with QF power only if it were competitive with other options) would adequately protect consumers. With respect to end-users, the Commission argued that retail access would jeopardize recovery of the merged company's investments made to serve its customers (i.e., stranded investment) and that the retail access issue is a state regulatory matter.<sup>7</sup> The retail access issue was challenged and on remand from the court,<sup>8</sup> the Commission requested that additional information be submitted on retail bypass, but only as it pertained to the competition issue in the merger case.

Similarly, the application of Entergy Services, Inc. (a subsidiary of Entergy Corporation) for market-based rates on certain sales by Entergy Power, Inc. and the Entergy operating companies was approved contingent upon an open access policy which excluded the following groups: (1) retail customers, (2) QFs, unless the PURPA right to make sales at avoided cost is waived, and (3) electric distribution systems established to serve retail customers formerly served by an Entergy operating company.<sup>9</sup>

In this proceeding, the Commission considered the retail wheeling issue in the context of whether Entergy's transmission tariff adequately mitigated its market power in the bulk power

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<sup>7</sup>When customers bypass their historical suppliers, they leave a heavier burden of fixed charges to be recovered from the customers that remain.

<sup>8</sup>Environmental Action, Inc. v. Federal Energy Regulatory Commission, United States Court of Appeals for the District of Columbia Circuit, 939 F. 2d 1057 (1991).

<sup>9</sup>Entergy filed proposed transmission tariffs which included certain restrictions which were modified or deleted as a condition of approval. Approval was granted in Docket No. ER91-569-000, 58 FERC ¶ 61,234 on March 3, 1992.



(wholesale) market. Entergy proposed to sell power at market-based rates in the wholesale market. The Commission reasoned that excluding retail customers from the transmission tariff would not enhance Entergy's market power in the wholesale market where the market-based rates would be applicable. The third exclusion - new electric distribution systems established to serve former Entergy customers - was viewed as necessary to prevent retail customers from sidestepping their direct exclusion from open access under the transmission tariffs. The Commission also reiterated its position in the Utah Remand that it has no statutory authority under PURPA to force utilities to wheel for QFs.

In summary, the Commission has taken the position that it lacks authority under the FPA and the PURPA to order mandatory wheeling under any circumstances but may impose voluntary access conditions in mergers and other situations to mitigate potential adverse impacts on competition. Those eligible for access have included all utilities or electric generating companies which sell at wholesale (sales for resale). End-users have been excluded on the basis that retail bypass is a state jurisdictional matter, and that even if the Commission had authority to order retail wheeling, exclusion is necessary to protect the transmitting utility's investment in facilities to serve its customers.

The Energy Policy Act of 1992, however, has modified the PURPA. This legislation, while prohibiting mandatory retail wheeling, has granted the Commission authority to order open access. The Energy Policy Act (Act) of 1992 amends Section 211 of the FPA and authorizes the Commission to order mandatory wheeling by including the following provision:

Any electric utility, Federal power marketing agency, or any other person generating electric energy for sale for resale, may apply to the Commission for an order under this subsection requiring a transmitting utility to provide transmission services (including any enlargement of transmission capacity necessary to provide such services) to the applicant. [Subtitle B - Federal Power Act; Interstate Commerce in Electricity Sec. 721.]

The transmission service provided must be at rates or charges and under terms and conditions which permit the recovery of all costs associated with the service, including the cost of any enlargement of transmission facilities and other "legitimate, verifiable and economic costs" (Sec. 722 Transmission Services).

Mandatory *retail wheeling*, however, is specifically prohibited. Sec. 722 prohibits the issuance of any order which would require or is conditioned upon the transmission of electric energy to an ultimate customer. The Act goes even further and prohibits what are called "sham wholesale transactions" designed to avoid the proscription against mandatory retail wheeling. Under the Act, the Commission may not issue an order which requires or is conditioned upon the transmission of electricity to, or for the benefit of, an entity if the energy would be sold by such entity directly to an ultimate consumer unless:

"(A) such entity is a Federal power marketing agency; the Tennessee Valley Authority; a State or any political subdivision of a State (or an agency, authority or instrumentality of a State or a political subdivision); a corporation or association that has ever received a loan for purposes of providing electric service from the Administrator under the Rural Electrification Act of 1936; a person having an obligation arising under State or local law (exclusive of an obligation arising solely from a contract entered into by such person) to provide electric service to the public; or any corporation or association which is wholly owned, directly or indirectly, by any one or more of the foregoing; and

"(B) such entity was providing electric service to such ultimate consumer on the date of enactment of this subsection or would utilize transmission or distribution facilities that it owns or controls to deliver all such electric energy to such electric consumer"  
[Subsection (h)]

Thus, retail customers are uniquely excluded under the Commission's authority to order wheeling. The law even goes a step further and denies open access under arrangements contrived to get around the law on retail wheeling.

In addition to the FPA, FERC rulings, and the Energy Policy Act of 1992, additional restrictions exist on federal government entities attempting to competitively procure electric power. The Federal Acquisition Regulations incorporate the provisions of Section 8093 of the Department of Defense Appropriations Act, Fiscal Year 1988, contained in Public Law 100-202. Section 8093 and the FAR revision detail restrictions on the competitive procurement of electric services. Generally, unless permitted by state or federal law or regulation, federal agencies are prohibited from competing electric requirements for existing loads.

Within the past two to three years, momentum has increased to mandate retail wheeling at both the state and federal levels. The status of proposed and recently enacted legislation affecting electric power markets is discussed fully in the following chapter. The section immediately below compares the electric and natural gas utility industries.

## **2.5 COMPARISON OF THE ELECTRIC AND NATURAL GAS INDUSTRIES**

In 1938, Congress enacted the Natural Gas Act (NGA) to regulate the sale for resale of natural gas in interstate commerce. The catalyst for reforming the regulation of the natural gas industry was the shortages of gas in the regulated interstate market during the 1970s. Congress responded to the shortages by enacting the Natural Gas Policy Act (NGPA) which created incentives for the increased flow of gas into the interstate market (through increased prices) and began the process of decontrolling wellhead prices.<sup>10</sup> The NGPA created new statutory rates for the wholesale gas market (i.e., for "first sales") in lieu of rates established by the Commission. Under the NGPA, changes were also made which broke down existing barriers between intrastate and interstate markets and which promoted gas transportation arrangements outside of the NGA's certification requirements. The primary change came under section 311 which authorized the Commission to approve transportation by an interstate pipeline "on behalf of" an LDC or an intrastate pipeline. The goal was to promote a competitive wellhead market which would allow market forces to play a more

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<sup>10</sup>Legislation was passed in 1989 which repealed all remaining price controls on wellhead sales of natural gas.

significant role in determining the supply, demand, and price of natural gas. The NGPA, therefore, accelerated a fundamental change in the industry. The so-called unbundling of gas began at this stage as natural gas became a separate and distinct commodity -- separate from the transportation, storage, and various load balancing services which were part of the bundled, city-gate sales which predominated prior to the reformation of the industry.

By the time the open access concept was formally introduced in 1985 via Federal Energy Regulatory Commission Order 436, the industry was in a surplus supply situation and natural gas prices in the field were declining. Order 436 instituted open-access, non-discriminatory transportation (on a voluntary basis) to permit downstream buyers such as industrials (large end-users) and local distribution companies (LDCs) to purchase gas directly from producers or marketers and have the gas shipped on the interstate pipeline system. Completion of the restructuring came with a series of orders commencing in April 1992, Order 636. In brief, these rules require pipelines to unbundle their sales service from their transportation services and to provide transportation services on a non-discriminatory basis that is equal in quality to the transportation service embedded in the previously bundled service.

To enable market participants to replicate the bundled service historically provided, the Commission mandated that each pipeline offer:

- access to storage on an open access, contract basis;
- access to information relevant to the availability of their transportation services (through the use of an electronic bulletin board);
- access to capacity held on upstream pipelines;
- a capacity releasing program which would allow firm transportation customers to release unwanted capacity to shippers desiring capacity; and
- transportation services which are equal in quality for all gas transported, whether purchased from the pipeline or elsewhere (generally including the availability of no-

notice service under which firm shippers may receive delivery of gas on demand up to their firm entitlements without incurring daily balancing and scheduling penalties).

Customers are allowed to convert their bundled firm sales entitlements to unbundled firm transportation rights and to unbundled firm sales entitlements. Under these rules, pipelines will be granted blanket sales certificates so they can offer unbundled firm and interruptible sales services at market-based rates in competition with other non-pipeline suppliers. The Commission ordered all pipelines to make a compliance filing on or by December 31, 1992 to ensure that all pipelines would be in full compliance with the final rule for the 1993 to 1994 winter heating season.

In sum, the NGPA and the subsequent Commission orders discussed above have fundamentally changed two key components of the natural gas industry. First, the price of natural gas as a commodity is no longer subject to Commission-determined rates. Second, the transportation and sale of natural gas became separate economic services or functions. Pipelines now compete directly with producers, marketers, and other merchants in the sales function. While gas is sold in a competitive, deregulated market, the transportation of gas is still a monopolistic function and is subject to regulatory review and control.

Similarities exist in the structure of the natural gas and electric utility industries. Both are characterized by three primary stages of development: production, transmission (or transportation), and distribution. Natural gas is produced at the wellhead, transported to consuming areas by pipeline, and then distributed for ultimate consumption by local distribution companies through an extensive distribution network. Electricity is produced at remote generating facilities, transported via high-voltage transmission lines to consuming areas, and then distributed by local distribution companies through an extensive, low-voltage distribution network.

Like natural gas, electricity has been sold predominantly as a bundled product. Historically, local distribution companies (LDCs) generated, transported, and distributed electric power and energy to ultimate consumers under regulated rates, terms, and conditions. Unlike gas pipelines,

however, which were never extensively involved in the production of natural gas (and contracted, instead, for their supplies), electric LDCs have been the major producers of electricity. Additionally, gas pipelines generally were not involved in the distribution of natural gas. Pipelines historically sold their purchased gas to gas distribution companies for resale to ultimate consumers. Electric utilities are major distributors of electric service. Thus, the natural gas industry has never been vertically integrated to the same degree as has the electric utility industry.

In both industries, the transmission/transportation and the distribution functions are naturally monopolistic. Natural monopolies are characterized by inherent factors which make it possible for a single, large firm to supply a market at a much lower cost and price than would be possible if several smaller firms supplied an equivalent service or quantity of service.<sup>11</sup> In such markets, competition is usually discouraged in order to avoid wasteful duplication of investment or service and is replaced by regulation to protect the consumer.

Although the production of natural gas is still subject to certain output regulations in producing states, with decontrol, the wellhead market has evolved into a highly competitive market which includes an active spot market, a futures market, and a highly developed infrastructure of marketers, brokers, and information services. Additionally, gas suppliers face stiff competition from Canadian sources where surpluses, relaxed import constraints, and increasing imports have contributed to the downward pressure on natural gas prices for several years.

With respect to interstate natural gas pipeline transportation, the market has changed since regulation began in 1938. There are still geographic areas with a single pipeline supplier. But in many areas, a second, or even third pipeline has entered an area (with capability of serving a customer). The presence of pipeline-to-pipeline competition reduces the monopoly power of the initial pipeline. The pipeline system has matured into a largely interconnected, nationwide grid

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<sup>11</sup>This does not necessarily imply the complete absence of competition. Where markets are growing, there may be competition in meeting the incremental needs of the market.

which has increased the number and type of transactions possible. Displacements and exchanges enable transactions to occur between buyers and sellers that are far removed and may not even be physically connected. With open access, it is possible for suppliers to sell gas in a market that is virtually nationwide in scope. For example, prices are often stated at a particular location, say, Henry Hub, plus or minus a differential that represents locational value downstream or upstream from the hub.

The trend in electric generation has been toward increasing competition. This industry, which had been an industry characterized by high fixed costs and economies of scale (i.e., a declining cost industry), now faces competition from co-generation, independent and small power producers, as well as demand-side alternatives. Legislation on mandatory wheeling will accelerate this trend.

Because of the monopolistic characteristics of the transmission/transportation component, open access has and will continue to play a central role in the evolution toward greater competition in both industries. The whole issue of how best to include retail customers in the open access provisions revolves around the proper role of competition in meeting the current needs of existing and growing markets. The benefits of competition as an important tool in increasing economic efficiency (and the quality of service) must be weighed against the economic consequences to historical suppliers and the full requirements customers dependent on these suppliers. Competition yields its benefits through the efforts made by suppliers in response to present or potential competitors. Existing higher cost suppliers may suffer economic losses if competition succeeds in establishing market prices below regulated prices. In electricity, these losses are commonly referred to as stranded costs. The question which legislators and regulators have faced then is not whether competition may "hurt," but whether and how to determine the acceptable range of competition and "hurt."

In many respects, the restructuring of the natural gas acquisition and transportation markets is similar to the restructuring of the electric industry now taking place. There are fundamental

differences at the operational level which do account for implementation differences. For example, the electric transmission system performs a greater network function than the specific flows which can be accounted for in natural gas transmission. However, on a conceptual basis, electric and natural gas market reformations are both striving for the creation of more competitive energy acquisitions largely made possible through the restructuring of access to transmission and distribution systems.



### **3. ELECTRIC POWER MARKETS -- CURRENT AND FUTURE**

#### **3.1 INTRODUCTION**

This chapter presents a discussion of the restructuring of the U.S. electric utility industry at both the federal and state levels. As noted in the introductory section, the restructuring of the electric utility industry is appropriately viewed as a work in progress. None of the states has, as yet, fully defined the rules for retail customer choice, though several states have largely established the parameters for the restructured industry. In addressing future market characteristics, we have implicitly assumed that the restructuring that occurs over time will bear a substantial resemblance to the restructuring guidelines that have been articulated to date.

To provide a context for the discussion of industry restructuring, we have presented a section describing the U.S. electric utility industry under the existing regulatory framework which precedes the restructuring section.

#### **3.2 CURRENT INDUSTRY STRUCTURE**

##### **3.2.1 INTRODUCTION**

This section describes the various kinds of utilities that provide electric power to DOD installations (investor-owned utilities, rural electric cooperatives, municipal utilities, power marketing agencies, independent power producers, and co-generators), discusses the regulatory framework in which electric utilities operate, and presents a description and assessment of trends in the regulation of electric utilities.

##### **3.2.2 TYPES OF UTILITIES**

**Investor-owned Utilities (IOUs)** represent the largest utilities in the industry and some of the largest companies in the U.S. and the world in terms of revenue and investment. IOUs are corporations that are operated for profit and owned by shareholders. Like other private, for-profit

corporations, the corporate management of the IOU is responsible to shareholders for adequate earnings performance of the corporation.

IOUs distribute retail electric power service to customers within a defined area (known as a certificated area). The prices charged for service, and the services offered, are subject to regulation by the state or other regulatory authority for the jurisdiction in which the service is provided. Funding for construction of utility projects is typically provided from shareholders' equity and from short-term and long-term debt. Funding amounts are presumed to be proportional to the capital structure of the IOUs which contain ten to 15 percent short-term debt and roughly equal proportions of long-term debt and equity.

There are approximately 200 IOUs in the U.S., many of which provide retail service in multiple jurisdictions. About a quarter of these utilities are relatively small, serving only a few hundred customers.

Retail customers of the IOU have the same relationship to the company that any customer of a for-profit firm has: that of simply buying a product or service. Regulation, however, imposes some restrictions on the transactions. For example, the utility is required to offer service to all customers within its service area on a nondiscriminatory basis. The utility is also *required* to plan for, develop, and maintain sufficient resources to generate (or purchase), transmit, and distribute power to the customers within its certificated area. The utility also maintains the *right to serve* the customers within its certificated area. This means that the customer typically must purchase its electricity from the franchised utility, though certain exceptions to this requirement exist. For example, the customer may choose to self-generate power or, in some areas, select an alternative supplier if the area has dual certification, i.e., two utilities have the right to sell power in the same area.

Most IOUs are vertically integrated, generating the majority of their own electricity, and engage in the purchase and sales of power with other neighboring utilities or affiliated utilities,

although some investor-owned utilities purchase all of their electricity from affiliated generation companies or other utilities. Purchases or sales may also take place with other generating entities, such as cooperatively-owned or municipally-owned utilities, non-utility generators (NUGs), or federal or state power agencies.

**Cooperatively-owned Utilities** (co-ops), also known as Electric Membership Cooperatives (EMCs), are member-owned organizations. These utilities were formed initially to provide electric service to rural areas and, in furtherance of that objective, received low-interest loans from the Rural Electrification Administration (REA). There are about 900 retail co-ops in the U.S. Co-ops may obtain power from their own generating resources, from other utilities, from generation and transmission cooperatives (G&Ts), from state or federal power agencies, or from non-utility generators. While co-ops are located throughout the U.S., they are most prevalent in the Western states, where customer density tends to be relatively low.

Unlike IOUs, cooperatives do not operate for profit. Members (customers) of the co-op pay the cost of service, including depreciation, and the cost of debt. The cost of debt component, however, is typically incorporated into rates at a level higher than the actual cost in order to provide the co-op with a cushion, or margin, that would allow it to meet its debt obligations even in the event of an unanticipated decline in revenues. Such a decline in revenues might be due to factors such as weather conditions or the general economic climate. Excess revenues collected are treated in a manner analogous to the way that a for-profit company would treat retained earnings, and are distributed to co-op members (customers) on a formulaic basis, typically using revenues during the period in which the over-collections were made as the allocator.

The rates charged by co-ops generally do not need to be approved by the state regulatory authority. The rationale underlying this treatment is that the owners of the utility are also the customers and hence the utility has no incentive to over-charge for services provided. In some jurisdictions, however, regulatory approval is required before rates can be changed. Some

jurisdictions require regulatory approval only for rate increases over a prespecified threshold level, e.g., 12 percent.

**Municipally-owned Utilities**, or munis as they are sometimes called, are not-for-profit organizations that are owned by the municipalities in which they operate. There are approximately 1,800 municipal utilities located throughout the U.S. and most are relatively small, though several munis are as large as moderately-sized investor-owned utilities. Other things equal, a municipal utility will be able to provide service for less than the cost for which an IOU could provide service due to tax advantages that are available to the munis. For example, the interest received by the purchasers of bonds issued by munis is exempt from tax, thereby allowing munis to issue bonds at lower interest rates than bonds of comparably rated IOUs. Offsetting this tax advantage may be a tendency for munis to charge electric rates that provide a contribution to general revenues. Also, limited geographical size may limit distribution scale economies evident in larger IOU electrical operations.

Municipal utilities are governed by elected boards of directors, directors appointed by elected government officials, or by an established utility office that serves at the pleasure of elected officials. Municipal utilities generally are not subject to regulatory oversight regarding rates, though under certain circumstances they may be brought before public service commissions if serious rate problems emerge.

Municipal utilities may engage in the generation of power sold at retail, may purchase power at wholesale and resell the power at retail, and may generate and sell power at wholesale. A muni may also band with other munis or co-ops to develop an agency that purchases and generates power on behalf of members of the agency, thereby permitting even small munis to garner some of the benefits of bulk power supply scale economies present in the operation of larger utility entities.

**Federal Power Marketing Administrations (PMAs)** are administered by the U.S. Department of Energy. The federal government, as a result of investment primarily in hydro-electric

generating stations such as the Hoover Dam and other projects located predominantly in the Western, Southwestern, Northwestern, and Southern portions of the country, engages in the sale of power principally at the wholesale level but also at the retail level through the PMAs. The federal power marketing administrations are:

1. Bonneville Power Administration
2. Southeastern Power Administration
3. Southwestern Power Administration
4. Western Area Power Administration

Power generated by the federal PMAs is priced at rates that cover the costs of operation and repayment of bonds issued for project construction. PMAs are generally precluded from making sales to IOUs. They sell power to co-ops, munis, state and local governments, and federal government entities. Rates charged by the federal PMAs are generally low relative to the rates charged by co-ops, munis, and IOUs. To obtain access to PMA power in the current regulatory environment, a delivery path needs to be secured, either by direct connection to the PMA's transmission system or through the arrangement of wheeling paths to the PMA transmission system.

**Independent Power Producers and Cogenerators** are two forms of non-utility generators (NUGs). Cogenerators differ from independent power producers (IPPs) in that the cogenerator produces electricity as a by-product of the production of steam or other process heat whereas an IPP operates to produce power without concern for the production of any other good. The Public Utility Regulatory Policy Act of 1978 (PURPA) conferred certain benefits to cogenerators that meet the requirements specified by the FERC. In particular, the local franchised utility is required to purchase the electrical generation of cogenerators and other Qualifying Facilities (QFs) at the utility's avoided cost. Emerging competition is driving the utilities' avoided costs to market costs, which places cogenerators and QFs in much the same circumstances as any other power producer in terms of their electricity sales opportunities to utilities.

IPPs, however, do not have the right to have the power that they produce purchased by the franchised utility but instead can use the power generated to bypass the utility by using the power for its own process requirements. This may be profitable when the franchised utility has excess capacity since power rates to retail customers are based on average embedded costs. Alternatively, IPPs can compete as new generating resources for utilities in lieu of the utility constructing its own new generating resources. As the bulk power supply markets become increasingly competitive, and wholesale and retail customers are provided access to transmission service, IPPs can also compete with existing generation.

### 3.2.3 REGULATION

Most IOUs in the U.S. have traditionally provided electricity to end-use customers on an exclusive franchise basis. In exchange for this exclusivity, which assures the absence of competition, the franchisees' operations were subject to regulation, typically, by a state regulatory authority. These privately-owned utilities typically integrated their operations vertically, preferring to own and operate their own generation and transmission facilities, as well as distributing electricity to end-users. The provision of electricity from a single monopoly provider of service was the norm in the U.S. electric industry until recent restructuring activities began to alter this traditional service arrangement.

Traditional utility ratemaking is grounded in the principle that rates should be cost based.

Nevertheless, one standard of reasonable rates can fairly be said to outrank all others in the importance attached to it by experts and public opinion alike -- the standard of cost of service, often qualified by the stipulation that the relevant cost is *necessary* cost or cost reasonably and prudently incurred. [Bonbright, James C., Principles of Public Utility Rates, Columbia Press, 1961.]

The cost-based standard provides that regulated utilities should be allowed to charge rates that provide an opportunity to cover reasonable, prudent, necessary, and ongoing costs of providing service. This cost standard has been the bedrock of utility regulation throughout the post-World War II era, continuing to apply to regulated operations as utility service functions are being restructured.

Since firms in the private, unregulated sector of the economy must cover their total costs of service if they are to remain in business, and since regulation stands in lieu of market determined operations and generally seeks to emulate competitive market results, the cost of service standard has been the most generally accepted standard in the regulation of private utility companies.

Included in a utility's total cost of service is a reasonable return on its capital investment. The regulatory process determines, among other things, a reasonable rate of return commensurate with the business and financial risks associated with utility operations. This rate of return is applied to the utility's investment, i.e., plant, working capital, and certain deferred expenses, to define a return requirement. This return requirement is a component of the utility's total cost of service, along with other costs including fuel and purchased power, operations and maintenance expenses, depreciation expense, and tax expense.

Under a cost-based standard, once regulators determine the utility's total cost of service, the regulators next determine how much of the cost-based revenue requirement is the responsibility of each customer class. One of the tools that regulators consider in apportioning the total revenue requirement among customer classes is a class cost of service study. The class cost of service study typically is controversial, and rate case participants present any number of short- and long-run marginal cost studies, and numerous variants of average embedded cost studies. Regulatory commissions also consider value of service arguments in apportioning total costs among customer classes.

Regulatory commission responsibilities include a determination of the public interest and class revenue requirements consistent with that determination. While commissions rarely rely exclusively on class cost of service studies or slavishly apply those study results in the setting of class revenue requirements, class revenue requirements generally tend to incorporate cost basis to a greater rather than lesser extent.

In the traditional regulatory environment, the final step in the ratemaking process is the determination of actual rates consistent with the just-determined overall and class revenue requirements. The smallest customers will have energy-only rates (usually combined with a customer charge), consistent with their simple watt-hour metering capability. Larger customers may face a rate design that contains both energy and demand charges. The energy charges may remain constant with increasing usage, or they may decline as usage levels increase. Customers having meters that record usage over time may pay rates which vary by time of day.

Thus, under traditional ratemaking determinations, utilities were provided the opportunity to recover all of their costs by the application of rates to the delivery of energy in varying amounts at varying times throughout the monthly billing period.

### **3.3 ELECTRIC INDUSTRY RESTRUCTURING**

#### **3.3.1 INTRODUCTION**

Bulk power supply markets are becoming increasingly competitive as the electric procurement markets are restructured. The Federal Energy Regulatory Commission (FERC), which has always had regulatory authority over wholesale rates, including that portion of generation and transmission plant required to effectuate such sales, issued Order No. 888 in April 1996. This order created open access transmission service for wholesale customers, allowed wholesale customers the opportunity to purchase electricity from any of a large number of potential suppliers, and led to the adoption of a pro-competitive, non-pancaked transmission rates policy. The FERC also asserted authority over unbundled retail transmission rates. State public service commissions (PSCs) continue to regulate transmission costs included in bundled retail service rates and distribution rates.

In this new bulk power supply regulatory environment, electricity can be acquired at market rates. This is in contrast to the traditional regulatory scheme where prices were based on average embedded costs of providing service. Unbundled transmission service rates continue to be set at embedded costs by the FERC, and bundled transmission service and distribution service rates continue to be regulated on a cost basis by state PSCs.



Wholesale customers can now purchase their electricity from any of a large number of potential suppliers. These suppliers compete for the wholesale customers' sales business. Power purchases are delivered to the customer under unbundled, open access transmission rates. When states authorize retail access to the increasingly competitive bulk power markets, retail customers will be able to purchase their power requirements at market rates and have that power transmitted and delivered to them at regulated, cost-based rates. The status of ongoing federal and state restructuring activities is discussed in the subsequent sections of this chapter.

Legislative restructuring initiatives at the federal level are concentrated primarily upon the repeal of two statutes -- the Public Utility Holding Company Act of 1935 (PUHCA) and the Public Utility Regulatory Policies Act of 1978 (PURPA) -- that many believe are impediments to the transition to a deregulated electricity market. PUHCA was originally enacted to break up the powerful trusts that had exercised a stranglehold over the U.S. electric and gas distribution networks, while PURPA was a response to the energy crisis of the 1970s and the need to diversify the sources and technologies for electricity generation. Arguments for repeal of these statutes claim that while each has served a valuable purpose in the past, they contain restrictions or conditions that are largely irrelevant in an era of competition. In addition, the Energy Policy Act of 1992 (EPAct) vested in the Federal Energy Regulatory Commission broad new authority to order transmission access in wholesale markets. This section presents a brief discussion of each act, the key arguments for and against repeal, and a review of the existing legislative proposals under consideration in the 105th Congress. We also present a discussion of the open access provisions of EPAct.

### **3.3.2 PUHCA**

In the mid-1980s and again in 1995, the Securities and Exchange Commission (SEC) determined that PUHCA, designed to regulate the formation of utility holding companies and establish accountability to ratepayers, had achieved its purposes and recommended its conditional repeal to Congress. The act broke up the enormous interstate holding companies which dominated the energy market prior to 1935 in favor of smaller, geographically circumscribed systems which were limited from engaging in non-utility businesses, established a strong financial disclosure

system, and regulated the issuance and acquisition of securities by utility holding companies. These successes, coupled with the advances made in the development of standardized accounting principles, the sophistication of the modern securities markets, and the implementation of a strong state and federal regulatory system, led the SEC to report that PUHCA could be amended or repealed without risking a return to the anti-competitive behavior and interaffiliate abuses which initially inspired the legislation. In testimony before Congress, SEC Commissioner Isaac Hunt called PUHCA "redundant in many respects, as a result of prudent administration of the statute and the development and evolution of other state and federal regulation."<sup>12</sup> The SEC, however, has conditioned its recommendation upon continued access by state regulators to the financial records of companies within a holding company system and FERC authority to exercise oversight over affiliate transactions.

Legislators and business interests arguing for the repeal of PUHCA contend that, as currently fashioned, the act is actually an impediment to, rather than an impetus for, further competition in the energy market because it places restrictions on utility holding companies which prevent the establishment of a level playing field with other entrants into the energy market. The key restrictions include:

- The requirement for SEC approval to own electric and gas operations;
- The requirement for regulatory approval of all utility mergers and acquisitions;
- Prices for wholesale and retail transactions must be set by FERC and state regulatory commissions, respectively;
- Integration requirements which limit ownership of utility subsidiaries to a single geographic area; and
- Strict limitations upon the types of non-utility businesses holding companies may own or operate.

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<sup>12</sup>Statement of Isaac C. Hunt, Commissioner, Securities and Exchange Commission, Hearing on the Public Utility Holding Company Act of 1997, Senate Committee on Banking, Housing and Urban Affairs, April 29, 1997.

PUHCA also requires frequent, often duplicative, disclosures and statements to the SEC, as well as reviews by the SEC which duplicate efforts of FERC and the states. Taken together, these requirements impose "significant costs, in direct administrative charges and foregone economies of scale and scope, that often cannot be justified in terms of benefits to utility investors."<sup>13</sup>

Under the Energy Policy Act of 1992 (EPAct), however, a new class of wholesale power producers, exempt from the restrictions of PUHCA, was permitted to enter the generation market and compete in building non-rate-based power plants. In addition, the EPAct mandated that utilities open access to their transmission systems to all independent power producers at "just and reasonable rates." Issuance of FERC Order No. 888, which implemented transmission access, enabled these exempt wholesale generators (EWGs) to compete directly with investor-owned utilities for the wholesale power requirements of transmission-dependent utilities without having to invest in their own transmission systems. As retail competition has begun to emerge on the horizon, utilities have expressed concerns that PUHCA places them at a competitive disadvantage with EWGs who have greater flexibility over their operations and the ability to diversify their holdings.

In recognition of these arguments, PUHCA repeal is currently addressed in most of the restructuring legislation currently before Congress. The key debate is whether PUHCA repeal should be enacted separate from a comprehensive electric restructuring plan. Senator Alphonse D'Amato (R-NY) has introduced a bill known as The Public Utility Holding Company Act of 1997 which would in fact repeal PUHCA prior to the onset of full competition. The purpose of the bill is to:

eliminate unnecessary regulation, yet continue to provide for consumer protection by facilitating existing rate regulatory authority through improved Federal and State commission access to books and records of all companies in a holding company system, to the extent that such information is relevant to rates paid by utility

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<sup>13</sup>Securities and Exchange Commission, Division of Investment Management, "Regulation of Public Utility Holding Companies," June 1995, p. x.

customers, while affording companies the flexibility required to compete in the energy markets.<sup>14</sup>

D'Amato believes that while his bill provides an important first step towards restructuring, any further consideration of comprehensive energy reform belongs with FERC and the individual states. This bill is currently the only piece of proposed restructuring legislation to make it out of committee (with a 15-3 vote recommending passage) and to be placed on the legislative calendar.

Most who oppose this piece of legislation are not arguing for maintaining PUHCA indefinitely, but rather they believe that it is best addressed as part of a complete industry restructuring plan. In testimony before Congress, Larry Frimmerman, speaking on behalf of the National Association of State Utility Consumer Advocates, argued the perils of repealing PUHCA in stand-alone legislation:

If Congress repeals PUHCA and its integration requirement without tying relief to a showing of effective competition or divestiture, then these very large utility companies can expand their customer, billing, transmission and distribution monopoly at will to ward off competitors. This places such utilities at a tremendously unfair advantage prior to the onset of competition and will allow the utility to acquire other utilities.<sup>15</sup>

Another concern is that repeal prior to competition could provide utility holding companies the opportunity to finance acquisitions and diversification by increasing energy rates to utility customers. Mark Cooper, testifying before Congress on behalf of the Consumer Federation of America, stated that "regulation cannot replace PUHCA's structural protections because we do not have a comprehensive state-federal scheme of regulation in place in this country" sufficient to

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<sup>14</sup>S. 621, "The Public Utility Holding Company Act of 1997," 105th Congress, 1st Session (April 22, 1997), pp. 2-3.

<sup>15</sup>Testimony of Larry Frimmerman, on behalf of NASUCA, Hearing on the Public Utility Holding Company Act of 1995, Senate Committee on Banking, Housing and Urban Affairs, June 6, 1996, p. 8.

protect consumers from utility cross-subsidization.<sup>16</sup> Comprehensive legislative restructuring plans proposed by Representatives Schaefer and DeLay and Senator Bumpers each include repeal of PUHCA and are discussed in further detail in a subsequent section.

Table 3.1 summarizes the arguments surrounding PUHCA repeal.

<p><b>Table 3.1</b></p> <p><b>The Pros and Cons of PUHCA Repeal</b></p>	
<b>Against Repeal</b>	<b>For Repeal</b>
<ul style="list-style-type: none"> <li>• PUHCA regulations can protect consumers until full retail competition is up and running.</li> <li>• Ratepayers are still at the mercy of the regulated monopolies.</li> <li>• PUHCA guards against monopolies and anticompetitive behavior.</li> <li>• Utility monopolies are now taking actions (e.g., mergers) to increase market dominance, and PUHCA can keep them in control.</li> <li>• Immediate repeal is a piecemeal approach; repeal should be contained in comprehensive industry restructuring legislation.</li> <li>• PUHCA guards against interaffiliate transaction abuse.</li> </ul>	<ul style="list-style-type: none"> <li>• PUHCA's provisions are antiquated.</li> <li>• PUHCA is impeding the transition to competition.</li> <li>• Utilities need to be able to diversify in order to improve profits.</li> <li>• PUHCA has already achieved its goal by making holding companies manageable and regulated.</li> <li>• The Securities and Exchange Commission itself recommends a conditional appeal.</li> <li>• PUHCA prevents all companies from playing on a level field.</li> <li>• Various other regulations have since been instituted that prevent holding company abuse.</li> <li>• Immediate repeal is necessary; it will take too long if it is contained in comprehensive industry restructuring legislation.</li> </ul>
<p>Source: Energy Information Administration, <i>The Changing Structure of the Electric Power Industry: An Update</i>, December 1996, p. 40.</p>	

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<sup>16</sup>Testimony of Mark Cooper, on behalf of Consumer Federation of America, Hearing on the Public Utility Holding Company Act of 1997, Senate Committee on Banking, Housing and Urban Affairs, June 6, 1997, p. 27.

### 3.3.3 PURPA

Enacted in response to the energy crisis of the 1970s, PURPA was designed to reduce the nation's vulnerability to interruptions in its energy supply. This was to be achieved by: 1) promoting increased energy conservation and efficiency programs; 2) increasing support for the development of renewable and alternative energy sources; 3) improving the wholesale distribution of electricity and the reliability of electric service; and 4) diversifying the sources of supply.

The most controversial provision of PURPA was a requirement that electric utilities interconnect with and buy all capacity and energy offered from "qualifying facilities" (QFs) at the utility's own avoided cost rates. Two types of electric generators were eligible to become QFs under criteria established by FERC: small power producers and cogenerators. Qualifying small power production facilities were defined in the Federal Power Act as generators meeting FERC requirements for renewable fuel use, fuel efficiency, and reliability. Qualifying cogeneration facilities had to meet similar FERC ownership and operational requirements.

The intent of establishing qualifying facilities was to increase the available sources of electric supply, while at the same time promoting renewable and alternative energy. To encourage entry into the market, Congress exempted QFs from most of the regulatory and administrative burden which had previously rendered entry into the electricity market prohibitive for smaller entities.

Most importantly, QFs were guaranteed a market for their power. As mentioned above, utilities were required to purchase power from QFs at their own long-run avoided cost rates. This marked a substantial departure from traditional rate regulation, which had been based on the seller's cost (rather than the purchaser's cost) of producing the power.

Current efforts to repeal or reform PURPA center around this mandatory purchase obligation (Section 210). Its critics claim it is anticompetitive because the Government created an "artificial market," and anti-consumer because many studies have estimated that PURPA has caused utilities

to pay billions of dollars over the market price of power for QF purchases.<sup>17</sup> As with PUHCA, the primary debate centers not around the issue of whether reform is needed, but rather whether it should be achieved through stand-alone legislation or as part of comprehensive restructuring legislation.

In the 105th Congress, one bill has been introduced which would prospectively repeal PURPA's mandatory purchase requirement as a stand-alone measure; existing contracts, however, would not be affected. The Ratepayer Protection Act, introduced by Representative Stearns in January 1997, additionally calls for full recovery of costs associated with mandatory QF power purchases prior to January 7, 1997. As with PUHCA, most opponents of this bill cite the need for full competition to be in place before such legislation is enacted in order to prevent monopolistic abuses. In addition, the National Association of Regulatory Utility Commissioners opposes Stearns' bill because it would allow FERC to prevent utilities from absorbing the costs associated with PURPA contracts.<sup>18</sup>

PURPA reform is also a part of other comprehensive restructuring plans before Congress. S 237, introduced by Senator Dale Bumpers, provides that Section 210 of PURPA would not apply to any facility beginning commercial operation after December 15, 2003, the date by which Bumpers' bill mandates full retail competition. HR 655, introduced by Representative Dan Schaefer, provides that Section 210 would not apply to electric utilities:

if the State makes a determination that the retail customers of such utility in such State are able to purchase electric energy at retail from any person offering electric energy to the purchaser on a competitively neutral and nondiscriminatory basis and if the State notifies the Commission [FERC] of such determination.<sup>19</sup>

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<sup>17</sup>Energy Information Administration, The Changing Structure of the Electric Power Industry: An Update, December 1996, pp. 41-42.

<sup>18</sup>Congressional Research Service, "Electricity: The Road Toward Restructuring," Issue Brief No. 96003, March 24, 1997, p. 10.

<sup>19</sup>HR 655, "Electric Consumers' Power to Choose Act of 1997," 105th Congress, 1st Session (February 10, 1997), p. 46.

The Consumers Electric Power Act of 1997 (HR 1230), introduced by Representative Tom DeLay, contains a substantially similar provision exempting utilities from PURPA once full competition is in place. Further discussion of these bills is provided in a subsequent section.

Activity to reform or repeal PURPA has also spurred debate on the future role of alternative and renewable energy, and the Government's role in ensuring fuel diversity and environmentally conscious technologies. Concerns exist that without the mandatory purchase provisions of PURPA, which ensure a market for the power generated by alternative and renewable energy, there will be insufficient incentive for utilities and other power producers to continue to develop and utilize alternative energy technologies. Legislation has therefore been proposed to ensure that these goals continue to be met in a newly competitive market. Similar bills have been proposed in both houses of Congress to create a National Electric System Public Benefits Fund. The fund would provide matching grants to states for the support of conservation, energy efficiency, renewable energy, and universal service programs. Under HR 1359 proposed by Representative Peter De Fazio, the program would be funded by charges collected by transmission utilities from generators. The charges, which would be limited to 2 mills per kWh, are intended to provide half of the aggregate cost of carrying out the eligible programs. Senate Bill 687, introduced by Senator Jim Jeffords (R-VT), includes an additional provision specifying a percentage of the total amount of electricity sold by covered generation facilities that must come from renewable energy sources. The percentage would increase gradually from 2.5 percent in 2000 to 20 percent in 2020. The bill would also repeal the cogeneration and small power production provision of PURPA effective January 1, 2000.

Additional provisions regarding renewable and alternative energy standards are included in the comprehensive restructuring legislation described in the following section.

Table 3.2 summarizes the arguments surrounding PURPA repeal.



<p><b>Table 3.2</b></p> <p><b>The Pros and Cons of PURPA Repeal</b></p>	
Against Repeal	For Repeal
<ul style="list-style-type: none"> <li>• There is no guarantee that a free market can sustain the goals of PURPA, especially in the use of cogeneration and renewables.</li> <li>• Our nation must be able to handle another energy crisis through fuel diversity.</li> <li>• Incentives must remain in place to conserve energy and to use more environmentally benign fuels.</li> <li>• Qualifying facilities bring increased reliability and decrease the need for large costly plants.</li> <li>• At this point, utilities still have too much market power, and PURPA levels the playing field for non-utilities.</li> <li>• Immediate repeal is a piecemeal approach -- repeal should be included in comprehensive industry restructuring legislation.</li> </ul>	<ul style="list-style-type: none"> <li>• PURPA is anticompetitive because utilities are <i>required</i> to purchase from QFs.</li> <li>• EPAct's provisions for exempt wholesale generators render PURPA obsolete.</li> <li>• PURPA has resulted in high prices to consumers because QF contract terms were lengthy and were based on erroneous forecasts of high capital costs and increases in demand and the price of natural gas.</li> <li>• PURPA's goals have already been achieved.</li> <li>• If natural gas will be the fuel of choice as predicted, the environment will not need PURPA's strict protection since natural gas is the least harmful fossil fuel.</li> <li>• Cogenerators and renewables have already gotten a foothold and do not need further promotion.</li> <li>• Immediate repeal is necessary; it will take too long if it is contained in comprehensive industry restructuring legislation.</li> </ul>
<p>Source: Energy Information Administration, <i>The Changing Structure of the Electric Power Industry: An Update</i>, December 1996, p. 42.</p>	

### 3.3.4 TRANSMISSION ACCESS PROVIDED BY EPACT

Under EPAct, the FERC was granted broad new authority to order utilities under their jurisdiction to provide transmission service when requested to do so by eligible entities. Section 211 of the Federal Power Act (FPA) was amended to permit eligible utilities to seek an order from the FERC ordering transmission access. Section 211 also included a provision that such an order could not be issued if it would unreasonably impair the reliability of the electric systems affected by the order.

Section 212 of the FPA was amended to give the FERC authority to set the terms and conditions of the transmission service ordered under Section 211. Significantly, Section 212 prohibited the FERC from issuing any transmission order that was inconsistent with retail marketing areas. Specifically, Section 212(h) prohibited the FERC from ordering transmission service directly to an ultimate consumer, i.e., the FERC could not order retail wheeling.

As written, Sections 211 and 212 are case-specific. Each eligible entity requiring transmission service must apply to the Commission for an order seeking access. Ultimately, the Commission determined that its power under Sections 205 and 206 of the FPA to remedy undue discrimination enabled it to adopt the generic approach articulated in Order No. 888, which required all utilities to file open access transmission tariffs.

### **3.3.5 COMPREHENSIVE RESTRUCTURING LEGISLATION**

There are currently four bills before the Congress which can be considered "comprehensive" electric industry restructuring legislation (i.e., establishing a national focus for the evolution of the competitive electricity marketplace): HR 655, The Electric Consumers' Power to Choose Act of 1997 (Schaefer); HR 1230, The Consumer Electric Power Act of 1997 (DeLay); HR 1960, The Electric Power Competition and Consumer Choice Act of 1997 (Markey); and S 237, The Electric Consumers Protection Act of 1997 (Bumpers). Each is described below.

#### ***HR 655, The Electric Consumers' Power to Choose Act of 1997 (Schaefer)*<sup>20</sup>**

Representative Schaefer's bill, generally considered to be the primary restructuring bill for competition proponents, would require full retail competition for all customers in the United States by December 15, 2000. Implementation would be left to the individual states; however, if a plan is not developed within six months of the bill's passage, the FERC would impose its own plan, thus preempting any state law inconsistent with the exercise of such authority. Two-year extensions would be made available for states which would require enabling legislation prior to taking further

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<sup>20</sup>Schaefer (R-CO) is the Chairman of the House Subcommittee on Energy and Power.

action. Stranded cost recovery and decisions about public benefits programs, low-income assistance, conservation, and environmental protection would be left entirely to the states. PUHCA and PURPA would both be repealed prospectively. Renewable energy resources would be encouraged through a credit trading program under which all generators of electricity which sell their power must have credits (issued by the FERC) equal to two percent of their generation (increasing to three percent in 2005 and four percent in 2010). The bill does not mention the creation of independent system operators (ISOs) or power exchanges (PXs).

#### ***HR 1230, The Consumer Electric Power Act of 1997 (DeLay)***

This bill requires full retail access for all customers across the United States by January 1, 1999, and would prospectively repeal PURPA and PUHCA once the market is competitive. In addition, it outlines the performance objectives of transmission and distribution systems in a competitive environment. Congressman DeLay's bill strengthens state authority in the areas of universal service for customers, universal access for providers, and conservation programs. Most controversially, the bill eliminates all stranded cost recovery and exit fees. For this reason, the bill is given little chance of passage.

#### ***HR 1960, The Electric Power Competition and Consumer Choice Act of 1997 (Markey)***

Congressman Markey's bill mandates that states open their electricity markets to competition, but it does not specify a deadline or provide an implementation plan or guidance on stranded cost recovery. The bill exempts utilities from PUHCA and PURPA once the transition to a competitive market in their state has been completed. It also includes changes in transmission pricing through the enactment of "postage stamp" rates which would allow power to be transmitted anywhere within a region for a single rate, and prevent individual transmission line owners from adding charges. Congressman Markey's proposal also includes the establishment of a disclosure system by 1999 which would require electric utilities to provide information on prices, sources of generation, and emissions to consumers upon demand. The bill would establish a Federal Renewables Portfolio Standard that would start at three percent of national supply and grow to ten percent by 2010. In addition, HR 1960 includes a net metering provision which would encourage

states to pass laws allowing homeowners with solar cells on their homes to sell excess power to their utility and thus reduce their electric bills.

***S 237, The Electric Consumers Protection Act of 1997 (Bumpers)***

S 237 would mandate full competition in the electric industry across the United States by December 15, 2003. Unlike the other competition bills before Congress, Senator Bumpers' bill is the only one to provide for full stranded cost recovery. For this reason, it has garnered the most support from utilities and others who favor a slow transition to competition. The bill calls for recovery through a non-bypassable charge imposed on distribution and retail transmission customers, and also includes a provision which grants the FERC authority to hear appeals from utilities who have been denied stranded cost recovery by state regulators. Cost shifting among customer classes is forbidden. Where utilities serve more than one state, customers can only be charged for stranded costs allocable to the utility's operations in their state.

Senator Bumpers' bill is also the most wide-ranging proposal currently on the table; its other provisions include:

- FERC must establish "broadest feasible" transmission regions and designate an ISO for each within two years of the bill's enactment, and must establish binding rules for governance and oversight of transmission regions and ISOs by January 1, 2002;
- By January 1, 2000, the EPA must submit a report to Congress on air pollution standards for competitive generation;
- By January 1, 2003, retail electricity suppliers must get five percent of their power from renewable sources (including hydroelectric power); this will increase to nine percent in 2008, and twelve percent in 2013;
- The FERC will be required to establish a National Renewable Energy Trading Program, which will promote research, development, and construction of non-hydro renewable facilities; and
- PUHCA would be repealed one year after the bill's final passage.

Recently, Senator Slade Gorton (R-WA) joined with Senator Bumpers to revise S 237. The measure was introduced in September 1997. Among the proposed changes is a national deadline for retail wheeling earlier than the December 2003 date in the current version. In addition, it includes an explicit definition of stranded costs.

### **3.3.6 STATE INITIATIVES**

Following the enactment of the Energy Policy Act of 1992, state regulatory commissions and legislatures across the United States first began to address in earnest the potential costs and benefits of electric industry restructuring and the regulatory and legislative changes necessary to implement the transition to a competitive electricity market. Although the extent and pace of this activity has varied considerably across the fifty states, no state has been able to completely avoid a consideration of the implications of competition in the electric utility industry. Of the forty-eight states (and the District of Columbia) under consideration in this report, as of August 1997, forty-one had ongoing regulatory activity, and twenty-two had passed some form of legislation related to electric industry restructuring. However, of this number, only ten states can be considered to have enacted legislation or formulated final regulatory plans which definitively mandate the introduction of competition into their electric utility industries. These states are Arizona, California, Maine, Michigan, Montana, Nevada, New Hampshire, New York, Pennsylvania, and Rhode Island. A summary of the legislative and regulatory activity in each of the fifty states is included as Appendix B of this report.

Several issues have dominated the restructuring agenda on the state level. Most notably, these include:

- Estimation and recovery of stranded costs;
- The timetable for implementation;
- The pricing of transmission and distribution services; and
- The new industry structure, including functional unbundling requirements, and creation of independent system operators and power exchanges.

Consensus on these issues has proven extremely difficult to attain. While state commissions have typically engaged in protracted discussions with industry stakeholders prior to the formulation of any restructuring plan, states have been hard-pressed to balance the competing concerns of consumers and utilities, particularly when the cost of compromise can potentially be measured in billions of dollars. For this reason, it must be noted that even for states which have established "final" restructuring plans, these plans have been and will continue to be subject to judicial challenge, which may alter their implementation.

The experiences of California, Michigan, and New Hampshire are highlighted below to show some of the divergent restructuring approaches being taken by states.

*California* -- No state will be more carefully watched than California when it comes to the implementation of retail electric competition on April 1, 1998. All customers will be granted immediate access to the electric supplier of their choice; a proposed four-year phase-in period was scrapped by the California Public Utilities Commission (CPUC) in May 1997. In addition, the CPUC also will allow competitive suppliers for metering and billing services to begin competing for commercial business beginning April 1, 1998. All other customer classes will be able to competitively access these services starting January 1, 1999

To ensure that residential and small business customers receive immediate benefits from competition, under the terms of Assembly Bill 1890 (AB 1890), California utilities were required to cut their rates to these customers by no less than ten percent (net of stranded cost recovery) starting January 1, 1998. Utilities must further reduce their rates for a total 20 percent reduction by January 1, 2002. The California plan, as specified in AB 1890, also calls for full stranded cost recovery by state utilities through a non-bypassable competition transition charge collected through March 2002. Stranded costs are to be calculated on a utility-by-utility basis, and utilities will be required to mitigate their stranded costs.

California utilities are required to functionally unbundle their operations, i.e., run their transmission, distribution, and generation operations as if they were separate companies. They are also required to divest a portion of their generating capacity to increase the number of competitive suppliers in the marketplace.

With respect to transmission, grid operation and generation dispatch will be performed by a non-profit, independent system operator and a power exchange. In accordance with FERC Order No. 888, transmission pricing will be cost-based. Market prices will differ from zone to zone within the state because transmission capacity between zones is limited.

Distribution services will be priced under a performance-based rate mechanism (PBR). Under a PBR system, prices are linked to a key economic index adjusted for expected increases in productivity. Distribution companies can earn profits by reducing costs at a rate greater than the expected increase in productivity. These gains may be shared with ratepayers under a formula approved by state regulators.

**Michigan--** Unlike the immediate access to competition granted by California, direct access in Michigan will be phased in gradually, with new allotments of 2.5 percent of the total load of the major utilities opening to competition each year through 2001. By 2002, any customer in the state who wants customer choice will be eligible to have it.

The rationale behind phasing in competition is that it will afford the utilities an opportunity to mitigate stranded costs. If, during the years before 2002, more than 2.5 percent per year of utility customers want to select alternative suppliers, those who will be allowed to choose will be selected by competitive bidding of stranded costs. A customer wishing to leave the utility system will submit a bid to the Michigan Public Service Commission (MPSC) on how high an "exit" fee it is willing to pay. The Commission will then select the highest bidders until the 2.5 percent allocation is filled for that year. By 2002, when all customers are eligible for choice, stranded costs will be determined on a cost basis.

The MPSC has concluded there are two possible approaches to recovering stranded costs in Michigan. The preferred option is to "securitize" the asset and provide a rate reduction for all customers. Stranded costs not recovered through rate reduction bonds will be recovered through a transition charge billed to direct access customers through 2007.

Unlike California, Michigan's restructuring plan does not include comprehensive treatment of distribution and transmission services. The MPSC hopes that its protracted implementation schedule will allow sufficient time for the establishment of a Midwest regional independent system operator, negotiations for which are currently underway. In addition, the plan expresses interest in performance-based ratemaking for non-generation services to provide incentives for maintaining quality and reliability, but does not include any specific proposals.

However, there was not even consensus among MPSC commissioners as to whether the Commission even had the authority to order retail wheeling. The order included a dissenting opinion by Commissioner John Shea who wrote:

If regulated companies do not agree with the proposals in the accompanying order, I believe that the regulated community is free to ignore those proposals. If the Commission's authority is limited as I suspect, then the accompanying order is of no practical consequence. It simply constitutes the "wish list" of those Commissioners who sign it, but it will not cause any change in the way electric utilities are regulated in Michigan unless assented to.<sup>21</sup>

In response to this opinion, Consumers Energy and Detroit Edison, the state's two largest investor-owned utilities, filed documents which stated that they could not legally be compelled to provide direct access and threatened to withdraw their restructuring proposals if the MPSC did not accept their terms and conditions.<sup>22</sup>

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<sup>21</sup>Dissenting Opinion of Commissioner John C. Shea, In the matter, on the (Michigan Public Service) Commission's own motion, to consider the restructuring of the electric utility industry, Case No. U-11290, June 5, 1997, p. 53.

<sup>22</sup>Electric Utility Week, August 18, 1997, pp. 9-10.



In addition, the Michigan Attorney General and two leading consumer organizations -- The Association of Businesses Advocating Tariff Equity (ABATE) and The Residential Ratepayer Consortium (RRC) -- filed suit against the MPSC, Consumers Energy, and Detroit Edison to cease restructuring hearings until such time that it can be determined that the MPSC has the authority to order retail wheeling. Unlike the majority of states where retail competition is scheduled to be introduced, the Michigan state legislature has not passed any legislation mandating retail wheeling; the Commission has acted under its own authority.

*New Hampshire* -- On May 22, 1996, New Hampshire became the first state to enact legislation mandating the implementation of full retail competition for all customer classes by a set date in mid-1998. The subsequent plan issued by the state PSC on February 28, 1997, moved this date forward to January 1, 1998.

New Hampshire utilities, unlike those in California, will have to fully divest all of their generation assets if they wish to become distribution services providers. Distribution services are to be priced through some form of PBR mechanism. Transmission services will be priced through a regional transmission tariff with adjustments for transmission constraints (i.e., congestion charges). The plan also calls for the creation of an independent system operator and power exchange.

New Hampshire legislators left decisions regarding stranded cost recovery entirely to state regulators, who have taken one of the more stringent approaches to the issue. Arguing that the intent of restructuring is to lower electricity rates, the New Hampshire PUC claims that full cost recovery is not compatible with this goal. As it currently stands, utilities will be allowed to recover about 60 percent of their mitigated stranded costs.

Northeast Utilities (NU), PSNH's parent, has asked a court to prevent the implementation of the PUC's order. NU argued that the PUC's method of calculation for determining stranded cost recovery, which was based on a regional market price of power rather than the cost of generation, would drive NU into bankruptcy. The court has issued an order restraining the PUC indefinitely

from proceeding with any portion of its restructuring plan dealing with PSNH's stranded cost recovery.

The PUC decided in May 1997 to suspend its restructuring plan and all of its interim stranded cost orders because of filings received from seventeen parties requesting a rehearing of its February order. Negotiations have been reopened over stranded cost recovery, and the issue continues to be fought in Federal Court. The introduction of competition is likely to fall back to the original July 1, 1998 date specified in legislation.

Despite the controversy over its implementation plan for full retail access, New Hampshire is currently in the middle of a two-year retail pilot program, which is scheduled to end in July 1998. The program requires each utility to allow three percent of its load, allocated among all customer classes, to be served by competitive suppliers. Over 30 electricity suppliers are participating in the program. The fight for the few large commercial and industrial loads has proved so fierce that many received price quotes well below the market cost of power.

Table 3.3 summarizes the provisions of the implementation plans of the ten states which have mandated competition. Further discussion of the issue of stranded costs is provided in the next section.

### **3.3.7 STRANDED COSTS**

The most troublesome issue confronting regulators and legislators in introducing retail competition to the electric industry is the estimation and recovery of stranded costs. The FERC has defined stranded costs as "any legitimate, prudent, and verifiable costs incurred by a public utility to provide a service to a retail or wholesale customer that subsequently becomes, in whole or in part,

an unbundled transmission services customer of that public utility or transmitting utility.”<sup>23</sup> These can be broken down further into four categories:

- **Stranded assets** -- generation investments and related assets that become uneconomic in an era of competition and which cannot be sold for some reason;
- **Stranded liabilities** -- contracts with unregulated generators or fuel suppliers;
- **Regulatory assets** -- deferred expenses which are listed as assets on the balance sheet in return for the promise by regulators that the utility will be able to recover them at a later date; and
- **Stranded social programs** -- programs that the utility has undertaken by virtue of its position as a regulated monopoly -- i.e., universal service, demand-side management, cross-subsidized pricing -- that would not prove economic in a competitive market.<sup>24</sup>

In a regulatory environment, utilities were guaranteed the opportunity to recover their prudently incurred investments in generating facilities on the basis of their original costs, less adjustments for depreciation. However, in a competitive marketplace, assets are valued only on the basis of their current and future income streams. Because generating capacity can now be built and operated at costs substantially lower than the embedded costs of some utilities, consumers would have no incentive to purchase from these higher-cost utilities. Thus, utilities would not have a reasonable opportunity to recover the unamortized portion of the historical cost of their assets -- i.e., their “stranded costs.” This in turn could place a utility’s continued operations in jeopardy unless the utility could find some way to collect these costs -- either from departing customers or from the remaining customer base.

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<sup>23</sup>Federal Energy Regulatory Commission, Notice of Proposed Rulemaking, “Recovery of Stranded Costs by Public Utilities and Transmitting Utilities,” Docket No. RM94-7-000, June 6, 1994.

<sup>24</sup>Energy Information Administration, “The Changing Structure of the Electric Power Industry: An Update,” December 1996, p. 78.

For this reason, stranded cost recovery has become the key issue for utilities whose view is that they incurred the costs necessary to serve their customers based on the promise of the regulatory compact that they would be permitted to recover their investment, and they will not willingly go along with a move to a competitive marketplace without reasonable assurances that this guarantee will be upheld. In recognition of the regulatory compact, the FERC has established the principle that utilities are entitled to full recovery of their "legitimate, prudent, and verifiable" stranded costs at both the federal and state levels. With regard to retail stranded cost recovery, although the FERC asserts legal authority to address retail stranded costs that result when customers obtain retail wheeling in order to reach a different generation supplier, it will leave this as an exclusive matter for state regulators, except insofar as they may lack authority under state law to address the matter in the future when retail wheeling is required.

The primary question, therefore, revolves not on whether or not stranded cost recovery will be allowed, but rather on how it will be recovered and how much will be recovered. Establishing the value of stranded costs is no small undertaking. Estimates of stranded costs nationwide vary tremendously, from as low as \$10 billion to as high as \$500 billion,<sup>25,26</sup> and there is little consensus that figures at one end of the spectrum are any less valid than those at the other. It is generally recognized, however, that utilities in the Northeast and the West (primarily California) account for the bulk of the industry's total stranded costs. A 1996 DRI study placed the present value of stranded costs at 59 and 54 percent of the rate bases of New England and California respectively.<sup>27</sup>

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<sup>25</sup>American Public Power Association, "Comments," in the matter of FERC Docket No. RM94-7-000, "Recovery of Stranded Costs by Public Utilities and Transmitting Utilities," December 6, 1994.

<sup>26</sup>National Economic Research Associates, Rewriting the Rules of the Road: Retail Wheeling and Competition in Electric Generation, March 1994.

<sup>27</sup>DRI/McGraw Hill, World Energy Service--U.S. Outlook: Fall/Winter 1996 (Lexington, MA), 1996, p. 44.

Several assumptions affect the projected levels of stranded costs. These include the timetable for transition to a competitive marketplace and thus the number of years used in computing stranded investments, the share of retail sales subject to competition, the projected market price of electricity, and the availability of reliable data regarding the level of utility plant investment and unamortized costs.<sup>28</sup> These decisions are being made on an individual basis by each state.

In order to recover stranded costs, both the FERC and the states are requiring utilities to "mitigate" their stranded cost exposure. In some cases, proactive mitigation strategies are possible, such as renegotiating contracts with fuel suppliers. However, to the extent that stranded costs are equated with "sunk costs," they cannot be mitigated *per se*; rather, they can only be allocated in such a way that they are absorbed by different sets of stakeholders.

The National Regulatory Research Institute has prepared a briefing document for state commissions which highlights several potential stranded cost recovery strategies. These strategies, identified below, are classified as either transaction or non-transaction related:<sup>29</sup>

#### ***Transaction-Related Stranded Cost Recovery Strategies***

- Access charges (either fixed or variable) for transmission or distribution service to be paid by all customers; may prove difficult to implement due to need for interjurisdictional cooperation.
- Exit fees charged to departing customers on either a lump-sum or regular payments basis; this strategy enjoys the support of FERC.
- A share of net generation savings (the difference between the utility's embedded cost of generation and the generation price realized by departing customers) over a given

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<sup>28</sup>Energy Information Administration, "The Changing Structure of the Electric Power Industry: An Update," December 1996, pp. 78-80.

<sup>29</sup>National Regulatory Research Institute, The Regulatory Treatment of Embedded Costs Exceeding Market Prices: Transition to a Competitive Generation Market-- A Briefing Document for State Commissions, November 7, 1994, pp. 45-56.

period of time; may prove difficult to implement due to need for interjurisdictional cooperation.

### ***Non-Transaction-Related Stranded Cost Recovery Strategies***

- Shifting costs to captive customers; an extremely unpopular strategy unlikely to be implemented.
- Charging ratepayers above-market prices where market exceeds cost.
- Accelerated depreciation of generation or regulatory assets, possibly coupled with decelerated depreciation of transmission and distribution assets.
- Price cap on performance-based rates which would allow a utility to keep all or a portion of revenues resulting from cost-cutting efficiencies.

### ***Other Broader Cost Recovery Strategies***

- Entrance fees charged to new generation.
- A per kWh tax on generation to be paid by all sellers.
- Taxes to include credits for financial writedowns or trust funds to subsidize contract buyouts from non-utility generators.

An additional method of financing stranded cost recovery that has attracted a great deal of attention is securitization. Securitization involves replacing "higher-cost financing ... [that is,] a combination of equity and traditional utility bonds [typically rated approximately A to BBB] ... [with] lower-cost financing with securitized bonds rated AAA," thus resulting in a net rate reduction for consumers.<sup>30</sup> This typically involves a four-step process:

1. The establishment of a trust, through legislation, which will issue bonds and assure payment of interest and principal through a charge on the delivery of power.
2. Funds generated from the sale of bonds are forwarded to the utilities.

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<sup>30</sup>Michigan Public Service Staff Report, p. 17.

3. These funds are used to reduce the amount of debt and equity on the utility's balance sheet. Rates are reduced to reflect the resulting lower financing charges.
4. The utility collects securitization charges from all customers and forwards these to the trust for debt servicing.

At present, California and Pennsylvania have both passed legislation allowing securitization.

Concerns have been raised, however, that placing stranded cost recovery outside of the regulatory oversight of the individual state public service commissions may not be wise. Kenneth Rose, a senior economist at the National Regulatory Research Institute argues:

Securitization marks a form of permanent regulatory and market bypass. Estimating all future recovery today ignores future market price changes, provides poor incentives to mitigate uneconomic costs and locks in a payment stream for the utility that may prove completely inappropriate in the future.<sup>31</sup>

According to Rose, the true beneficiaries of securitization will not be ratepayers, despite the fact that they may end up paying less in interest costs than they currently pay in rates depending on the length of debt and the equity terms being replaced. Under securitization, they would shoulder the entire burden of above-market costs as well as losing the supervision of regulators to ensure that these costs are mitigated. Utilities, on the other hand, get a guarantee protected by legislation that they will be able to remove all of their uneconomic costs from their books, thus placing themselves in an enviable competitive position. Finally, bond underwriters stand to make millions in profits, as some industry estimates place the market for these securitized assets as high as \$100 billion.<sup>32</sup>

States are cautiously examining all of these proposed methods for stranded cost recovery and mitigation. At present, the timing of restructuring appears to be the largest single factor dictating the magnitude of stranded costs. California will prove an important test case in this regard.

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<sup>31</sup>Kenneth Rose, "Securitization of Uneconomic Costs: Whom Does It Secure?" Public Utilities Fortnightly, Vol. 135, No. 11, June 1, 1997. [*Quote obtained from electronic version of article; no page number available.*]

<sup>32</sup>*Ibid.*

California has the country's single largest state stranded cost burden, yet it is implementing an immediate transition to competition. This approach goes against the conventional wisdom that delaying the onset of competition is the most effective way of minimizing stranded costs. Under a regulatory price scheme, utilities recover a portion of fixed costs each year -- thus every year under regulated prices reduces the level of "stranded" costs left to be recovered, assuming other controls on expenditures are in place. However, as noted earlier, the level of stranded costs is not really any different under regulation than under competition; rather, the transition to competition affects only who pays these charges and how they are recovered. California's ability to balance its proposed rate cuts for residential and small business customers with the non-bypassable competition transition charge instituted to recover stranded costs will likely set the stage for much of the debate over the level, timing, and burden-sharing of stranded costs across the country in the months and years to come.



## **4. THE EFFECTS OF RESTRUCTURING ON DOD POWER SUPPLY COSTS**

### **4.1 INTRODUCTION**

This section describes the derivation of the estimated savings in electric power costs that DOD facilities may be able to realize over the next 15 years as a result of the introduction of retail customer choice and increased competition in the electric power industry across the United States. DOD facilities today purchase electricity principally from Investor-Owned Utilities (IOUs) at regulated rates subject to the jurisdiction of state regulatory commissions. It has become increasingly clear over the last few years that in many parts of the country such rates lie above competitive levels. This is attributable to numerous factors: large nuclear power plant cost overruns; power purchase contracts with non-utility generators (NUG) at prices above market levels; and overforecasts of customer demand. Under federal law, however, DOD facilities, in general, could not secure electricity from alternative suppliers. The decision by many states, either through legislation or through the efforts of regulatory commissions, to permit retail customers to shop for power should enable the government to secure electricity on the same competitive basis as other goods and services.

The magnitude of any savings realized through competitive acquisition of electricity will depend upon a number of factors. First, the ability to issue competitive solicitations to seek competitive prices for electricity will depend principally upon the pace at which retail customer choice is approved among the various states. At present, only a few states have adopted plans with a date certain for retail competition. Other states have announced general plans to consider the issue through legislation or with regulatory proceedings.

A second, and potentially more significant, impediment to the realization of cost savings, certainly in the short run, lies in the details underlying the implementation of retail, open access. Paramount among these details is the issue of stranded cost recovery. Stranded cost is the difference

between the regulated and market prices of electricity that utilities would be unable to recover if retail customers elect service from alternative suppliers.<sup>1</sup>

Most of the states approving retail competition have included a proviso that utilities will be able to recover virtually all of their stranded costs through a so-called competitive transition charge (CTC). During the transition period, customers, while free to elect alternative suppliers, must continue to pay a CTC to their current supplier. In most instances, the required payment of stranded or transition costs will make it difficult to secure electricity from a competitive supplier at a more favorable price. The extent to which this is true will depend upon whether states permit the recovery of all, or only a portion, of stranded costs.

A third source of savings depends upon the rate plans that regulatory commissions appear to be requiring in return for allowing utilities the opportunity to recover stranded costs. In many states, utilities are freezing and/or reducing rates for certain rate freeze periods. During this time, the real (inflation-adjusted) price of electricity to all affected retail customers falls, providing immediate short-run savings.

Finally, in the long-run, i.e., at the end of the stranded cost recovery period, the government will be able to purchase electricity from a competitive supplier. The long-run savings realized will depend upon the difference between the regulated price that would have eventuated in the absence of competition and the competitive price. As will be explained below, this difference, which is currently large in some regions of the country, will narrow considerably over time.

While the discussion above has centered on the differences between market and regulated prices as the source of savings, it is only that portion of electric rates that corresponds to the cost of generation (including purchased power) that is the real source of any savings to be realized. Utilities provide three basic functions in providing customers the bundled product that is called

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<sup>1</sup>See Chapter 3 for a full discussion of the stranded cost issue.

electric energy: generation, transmission, and distribution.<sup>2</sup> The generation function corresponds to the cost of generating plants (including the return on investment), the cost of fuel and other operating costs associated with generating electricity. This area is the focus of intense competition from alternative providers of electricity. The transmission function is associated with the movement of electricity from the generating stations to local neighborhoods and load centers at high voltages. Distribution refers to the facilities that transform electricity from high to low voltages and connect the transmission system to customers' premises. Transmission and distribution are generally considered to be natural monopolies whose prices will continue to be regulated. Under the FERC's open access orders, unbundled transmission rates will be under the jurisdiction of the FERC while distribution and customer accounting costs will continue to be under the jurisdiction of the states.

## **4.2 COST IMPACT FRAMEWORK**

This section describes the detailed computations and hypotheses underlying the estimate of the power supply savings DOD may be able to realize from the ability to procure power competitively. The basic framework of our approach is described in Section 4.2.1. This identifies the key parameters needed to estimate savings and also describes the approach we have taken. Section 4.2.2 describes a DOE study of competitive and market prices, the results of which are relied upon here. Finally, Section 4.2.3 describes the key assumptions underlying our analysis.

### **4.2.1 CONCEPTUAL FRAMEWORK FOR ESTIMATING COST IMPACTS**

DOD facilities will be able to realize savings in their power bills because the market price of generation is less than the regulated price charged by many utilities. Generally, all customers electing to obtain power from alternative suppliers will continue to pay their host utility for transmission and distribution service, saving money only because competitive offerings in the bulk power market for generation are lower than the regulated price they had been paying to their host utility. The market price in many regions is lower than the regulated price because market price

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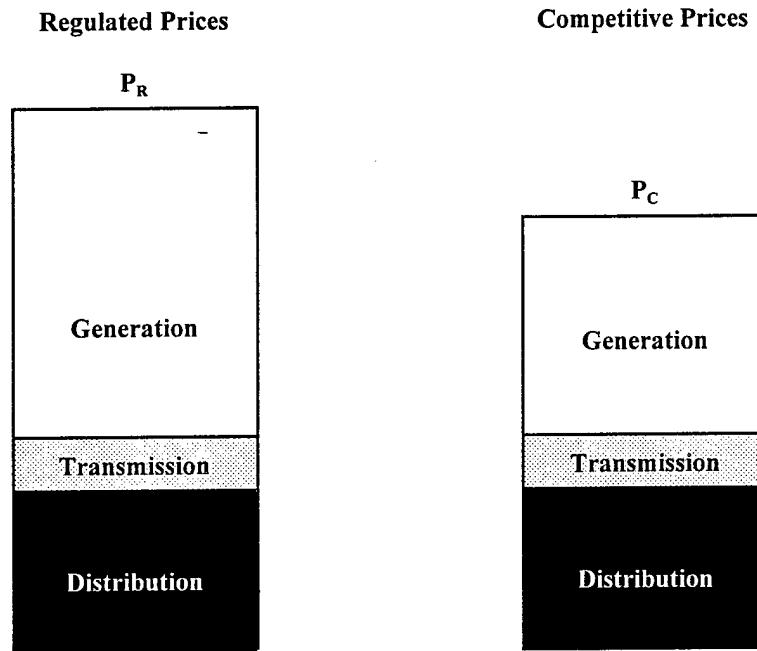
<sup>2</sup>In addition, ancillary services are provided, including scheduling, power regulation, reserves, and other services.

reflects the utility's marginal cost, the cost to the utility of meeting the demand of another increment of power. In regions where there is considerable excess capacity, this figure may be not much higher than short-run marginal cost, the cost of meeting another increment of power demand without adding to the current capital stock, that is, without adding generating plant. As demands increase and use up any excess capacity, marginal cost would approximate long-run marginal cost, the cost of adding to the stock of generating plant.

Figure 4.1 is a schematic representation of the regulated and competitive charges that are likely to become available in the market once states permit retail competition. The difference between the two blocks is the power cost savings, in cents per kWh, that are the maximum savings that can be achieved. This is denoted as  $S$ , the difference between the regulated price  $P_R$ , and the competitive price  $P_C$ . The cost of transmission and distribution in Figure 4.1 is unaffected by the move to retail competition. The difference in these prices depicts the fact that a portion of the utilities' generating assets are uneconomic, with costs above market clearing levels, i.e., stranded costs.

While the results depicted in Figure 4.1 show positive savings for consumers, there are regions of the country where this is not the case. In the Pacific Northwest, the generation component of regulated electricity prices is very low and reflects the fact that electricity in the region is produced from largely depreciated hydro generation facilities with low operating costs. As load grows in this region and utilities respond by adding new generating capacity, marginal costs, and hence market prices, are apt to lie above regulated prices, leading to negative savings, i.e., prices would have to rise to match market levels.

**Figure 4.1**  
**Regulated and Competitive Electric Prices**



$$\text{Savings} \equiv S = P_R - P_C$$

The savings indicated conceptually in Figure 4.1 are unlikely to be realized by consumers because most state regulatory commissions appear ready to make utilities largely whole for the uneconomic investment in generating facilities on their books. Stated differently, utilities will be able to recover a large portion of their stranded costs from consumers. This will be accomplished by assessing all consumers a competitive transition charge (CTC) that would be part of rates and be equal to, or perhaps a little less than, the savings that would otherwise be achieved by purchasing power at competitive prices.<sup>3</sup> All else equal then, in jurisdictions where a separate CTC representing full stranded cost recovery is included as a part of electric rates, the advent of retail competition will

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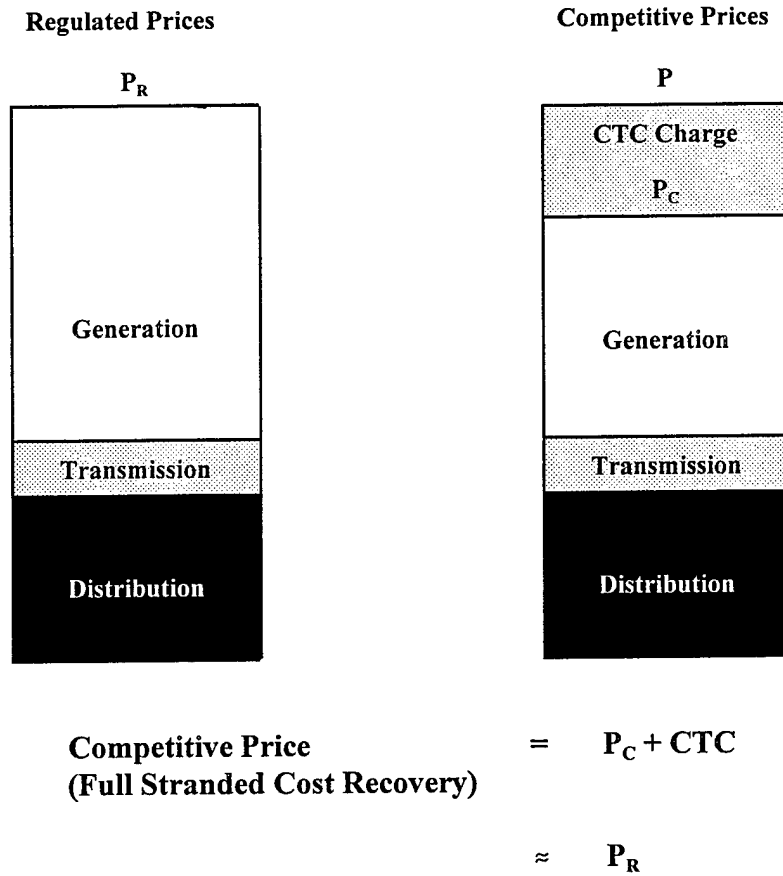
<sup>3</sup>A discussion of the mechanisms available for the recovery of stranded investment costs is presented on pages 3-30 to 3-31.

provide little if any immediate cost savings for the government. Figure 4.2 shows the rates under retail competition if full stranded cost recovery is allowed. Notice that such rates almost by definition match regulated rates. All else equal, while consumers are paying a CTC during the transition period, no savings would be realized.

Finally, at the end of the transition period, prices will fall to competitive levels, and the savings indicated in Figure 4.1 should be realized. Since this will not occur for several years in most states, however, it is unclear that such savings will be large. Over time, regulated prices would be expected to fall as generating facilities become increasingly depreciated. Increases in loads will also reduce unit electricity costs as costs are spread over more units of demand. At the same time, market prices should rise over time. As available capacity is used up through load growth, utilities will be forced to build new plants so that market prices will move from short-run to long-run marginal costs.

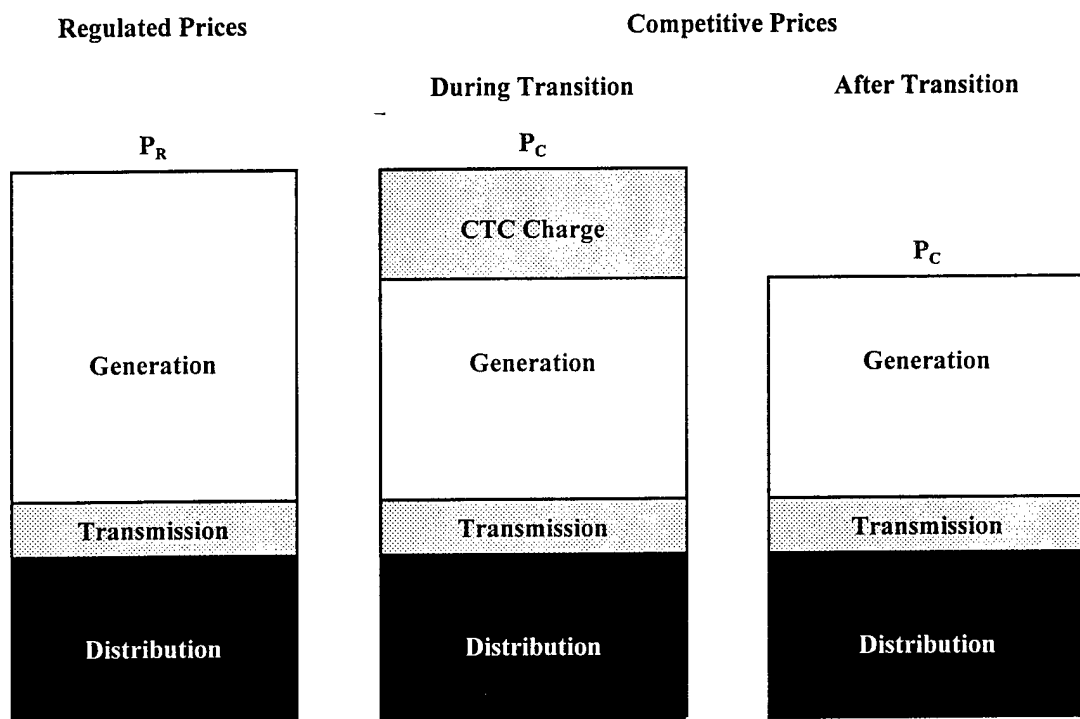
The schematic presentations in Figures 4.1 and 4.2 suggest that there will be little or no cost savings during the transition period when CTC charges are being collected. Following the transition period will be a period characterized by prices falling to market prices, with perhaps only a small level of savings reflecting the confluence of market and regulated prices over time. A review of the proceedings in several states that are implementing retail competition suggests another, slightly different, scenario. Many states are requiring utilities to freeze or even lower their retail rates, perhaps as an implicit *quid pro quo* for being allowed to recover stranded costs during the transition period. In real (inflation-adjusted) terms, of course, a rate freeze means that electric rates will fall over time. Implicitly, a rate reduction or rate freeze appears to reduce utilities' stranded cost recovery. For utilities to provide their investors the same return at the reduced real price, they must become more efficient during the transition period. Absent this increase in efficiency, investors' returns could fall.

**Figure 4.2**  
**Competitive Prices With Full Stranded Cost Recovery**



The cost savings that DOD facilities may be able to realize once retail competition is permitted in a state are depicted schematically in Figure 4.3. This shows a real reduction in rates during the transition period followed by a further reduction to market clearing levels. The actual savings to be developed on the basis of Figure 4.3 will depend upon the estimated time profile of the regulated and competitive prices during the 15-year analysis period (1997 through 2011).

**Figure 4.3**  
**Competitive Prices During and After Transition Period**



Competitive Price =  $P_C + \text{CTC}, \leq P_R$  During Transition

(Full Stranded Cost Recovery  
and Rate Freeze/Rate Reduction)

=  $P_C < P_R$  After Transition

The mechanism described above is designed for application in states that have not explicitly spelled out the approach that will be used to permit consumers to enjoy the advantages of competitive prices. The assumptions required to apply this methodology are described below.



Where states have provided an explicit blueprint for implementing retail competition, that information was incorporated into the calculation of savings.

#### 4.2.2. THE EIA ANALYSIS

This section describes briefly the basis for the regulated and competitive prices that are at the heart of the savings computations outlined above. The magnitude and time profile of these charges on a state-by-state basis are provided in a report prepared by the Department of Energy's Energy Information Agency (EIA) entitled *Electricity Prices in a Competitive Environment: Marginal Cost Pricing of Generation Services and Financial Status of Electric Utilities, A Preliminary Analysis Through 2015*. In this report, EIA compares regulated and competitive prices for electricity among the various electric reliability council regions in the U.S. under alternative scenarios.

The EIA analysis rests on a number of important assumptions. First, retail competition is assumed to be implemented nationwide beginning on January 1, 1998. This does not impede the use of the EIA results, however. The EIA reference forecast is identical to that in EIA's 1997 Annual Energy Outlook (AEO97). The AEO97 estimate of regulated prices assumes cost reductions result from competitive pressures in wholesale markets and preparations for impending retail competition. The Reference Case then maps out regulated prices under limited competition, adjusted to reflect a moderate customer response to lower prices. The average escalation rate of these average prices are the ones that would be applicable to DOD facilities.

Competitive prices in EIA's analysis are equal to the marginal cost of generation, a reliability adjustment, and the regulated price of transmission and distribution service. In periods when demand exceeds the available supply, prices could rise above marginal cost. The reliability adjustment is the value that consumers place upon a reliable electricity supply during such periods. In EIA's modeling exercise, marginal generating costs are developed through the use of a planning model that considers customer loads and the current mix of generating capacity and adds generating

capacity only when it is profitable to do so. This involves numerous assumptions about fuel prices, other operating costs, and the capital costs of various kinds of new generating facilities.

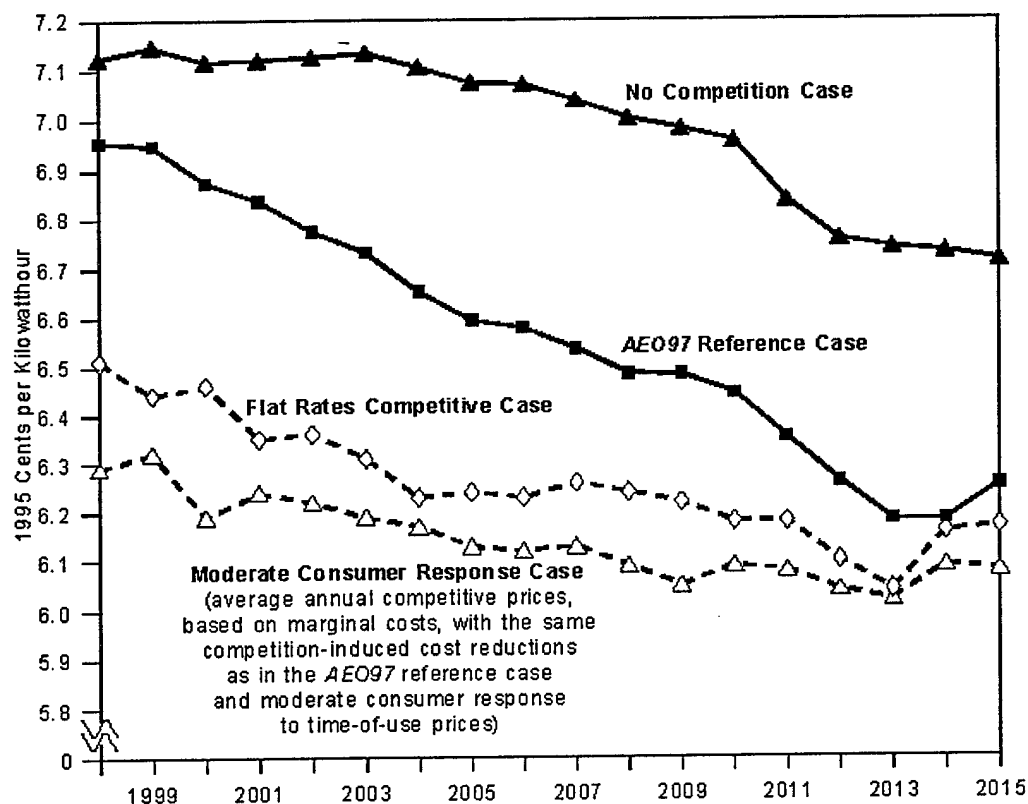
Once marginal generating costs have been developed, EIA presents several alternative scenarios for the evolution of competitive prices. The one on which our analysis relies assumes that competitive prices are designed on a time-of-day basis and that there is a moderate consumer response to those prices. In other words, consumers faced with high on-peak prices will respond by shifting some of their usage to off-peak periods, when electricity prices are lower.

Figure 4.4 shows EIA's national average regulated and competitive prices for two separate scenarios over the 1998 to 2015 period. Regulated prices are presented for the No Competition Case as well as the Reference Case. The Reference Case assumes that utilities respond to competitive pressures in wholesale power markets and take other steps in anticipation of the onset of retail competition. Neither of these regulated price scenarios includes an elasticity of demand adjustment to reflect any response by consumers to lower prices. The competitive prices in the "Flat Rates" case assumes there is no time-differentiation of rates and there is no load shifting among diurnal pricing periods. Competitive prices in the moderate consumer response case are based on the assumptions of time-differentiated rates together with a moderate consumer response that is produced using a small, -0.15, price elasticity of demand.<sup>4</sup> Over time, these results indicate that regulated and competitive prices tend to converge.

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<sup>4</sup>The price elasticity of demand is defined as the percentage change in quantity divided by the percentage change in price.

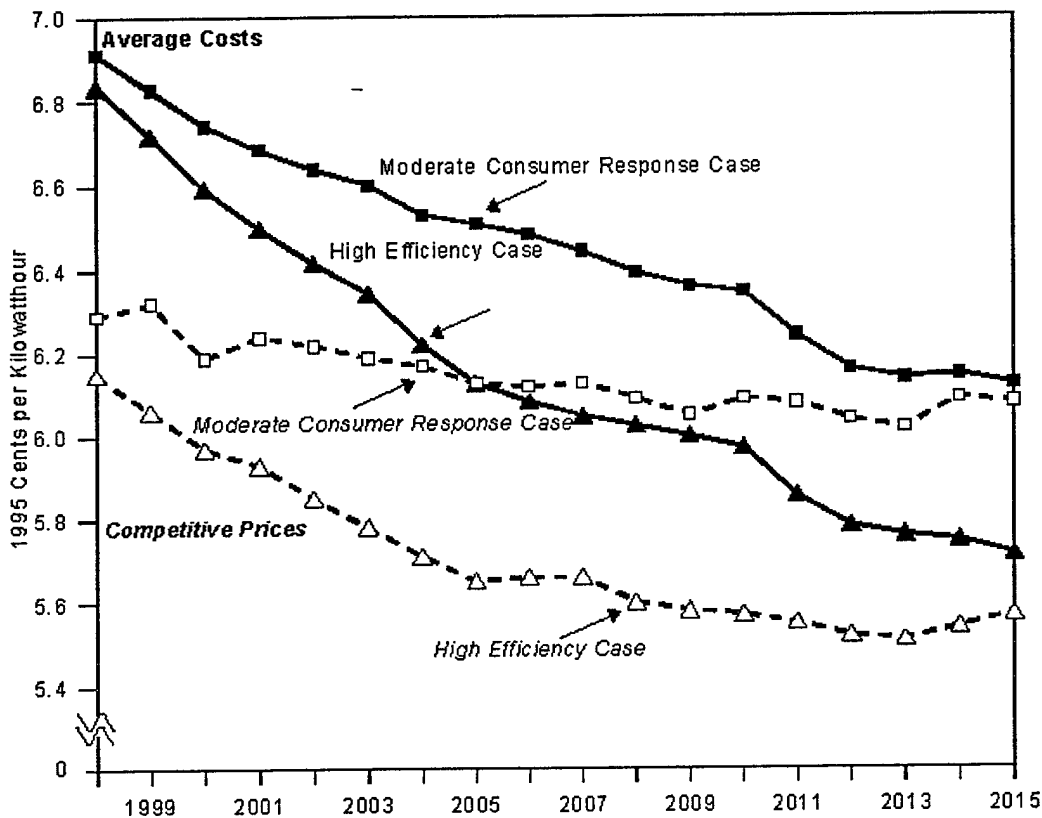
**Figure 4.4**  
**EIA - Forecasted Regulated and Competitive**  
**Electric Power Prices**



Source: Energy Information Administration, Office of Integrated Analysis and Forecasting, National Energy Modeling System and Prototype Value of Capacity Model, run sets AEOAVG2 and E15V03, and National Energy Modeling System, runs GAFLAT.D060497A and AE097B.D100296K.

Figure 4.5 shows EIA's results for national average prices where the EIA Reference Case has been replaced by one showing a moderate consumer response (top curve). This adjusts the Reference Case by incorporating the effects of a -0.15 price elasticity of demand. The other curves in Figure 4.5 are high efficiency cases, which reflect the effect of significant increases in utility efficiency. The analyses in this report rely upon differences in prices between the average prices in the Reference Case adjusted for a moderate consumer response and the competitive prices using time-

**Figure 4.5**  
**EIA-Forecasted Regulated and Competitive**  
**National Average Electric Power Prices**



Source: Energy Information Administration, Office of Integrated Analysis and Forecasting, National Energy Modeling System and Prototype Value of Capacity Model, run sets AEOAVG2 and E15V03, and National Energy Modeling System, runs GAFLAT.D060497A and AE097B.D100296K.

differentiated rates and a moderate consumer response. These are the topmost regulated and competitive price series in Figure 4.5.

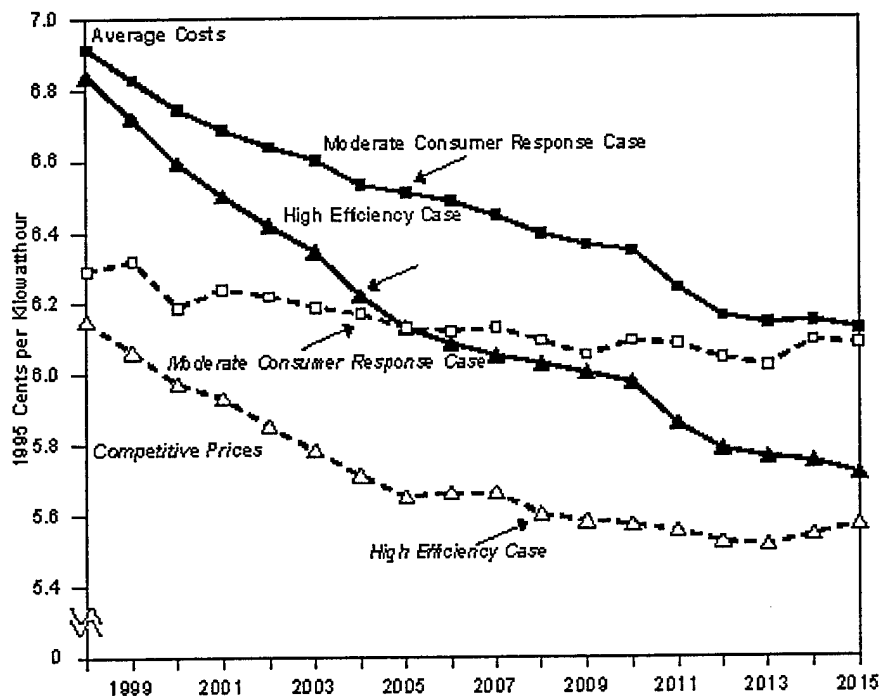
Figure 4.6 shows prices for the MAAC reliability council region, an area which includes the District of Columbia, the states of New Jersey, Delaware, and most of Pennsylvania and Maryland. Figure 4.7 shows similar results for the Pacific Northwest. In MAAC, the relationship between regulated and competitive prices over the 1998 to 2015 time frame is roughly consistent with the relationship depicted for the nation as a whole in Figure 4.5. As indicated above, it is the topmost

average and competitive price series, those labeled as the moderate consumer response cases, that are used in our analysis. Notice that the Pacific Northwest is one region where competitive prices are expected to exceed average-cost-based regulated prices, which is a reversal of the relationships for the nation as a whole.

#### **4.2.3 ASSUMPTIONS AND METHODOLOGY**

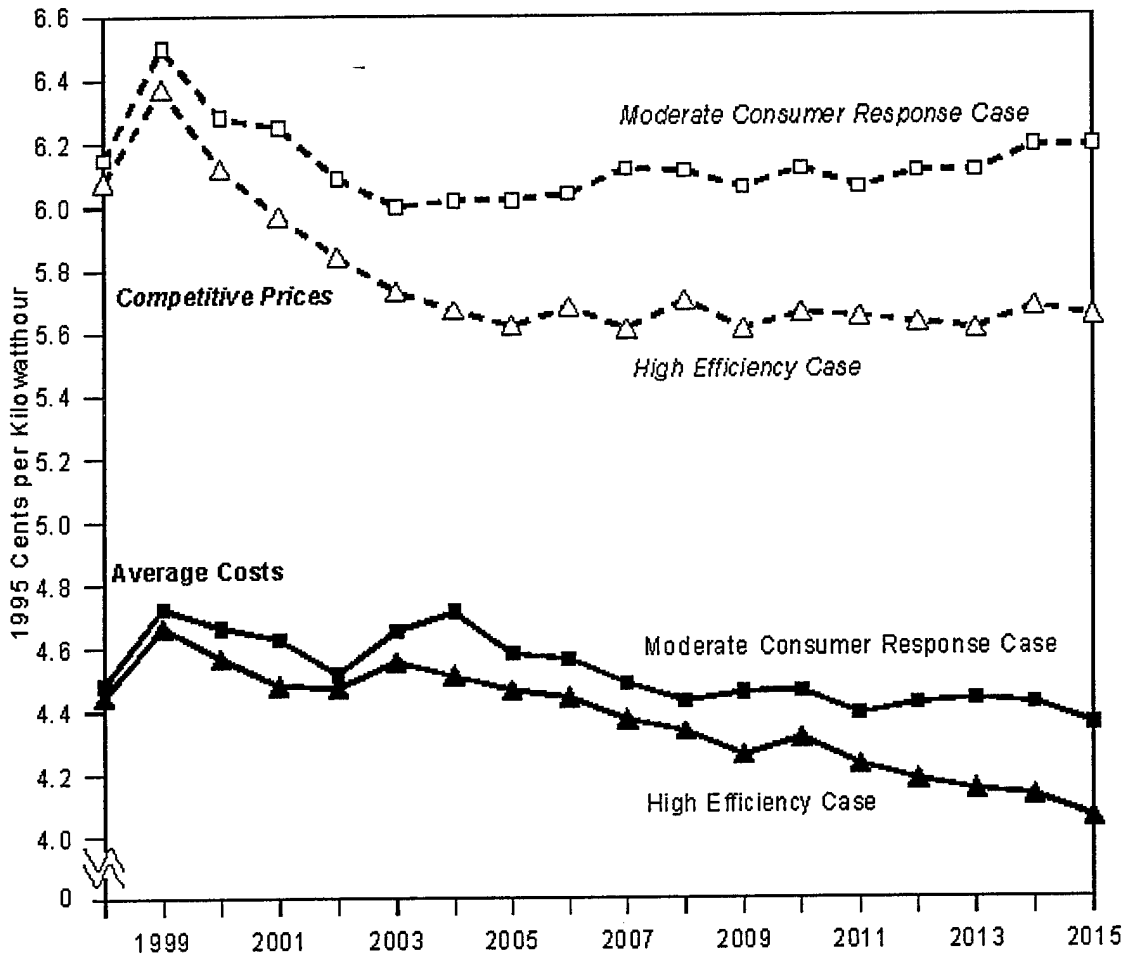
Long-term fuel prices and other trends will affect utilities' cost of generation and the ultimate prices charged to customers, irrespective of restructuring efforts. These factors must be captured in any baseline to develop a reasonable estimate of power supply cost savings obtained through electric utility industry restructuring. For example, changes in fuel prices and the continuing depreciation of existing generation resources will affect the long-term cost, and hence price, of generation. To control for price changes attributable to factors unrelated to restructuring, a baseline was created that captures the expected price of electricity assuming no restructuring.

**Figure 4.6**  
**EIA - Forecasted Regulated and Competitive**  
**Electric Power Prices**  
**MAAC Reliability Region**



Source: Energy Information Administration, Office of Integrated Analysis and Forecasting, National Energy Modeling System and Prototype Value of Capacity Model, run sets E15V03 and HIEFF.

**Figure 4.7**  
**EIA - Forecasted Regulated and Competitive**  
**Electric Power Prices**  
**Northwest Pool Subregion**



Source: Energy Information Administration, Office of Integrated Analysis and Forecasting, National Energy Modeling System and Prototype Value of Capacity Model, run sets AEOAVG2 and E15V03, and National Energy Modeling System, runs GAFLAT.D060497A and AE097B.D100296K.

The Energy Information Administration's *Annual Energy Outlook 1997* (AEO97) contains long-term projections of the price of generation absent restructuring.<sup>5</sup> These price forecasts are made on a regional basis and are further disaggregated by the end-use customer class (i.e., residential, commercial, industrial).<sup>6</sup> This allows the baseline to reflect regional variances in the cost of generation. Differences in the cost of providing service to customers in different rate classifications can also be captured.

The average cost of power (dollars per megawatt hour, or \$/MWh) for each base was determined for the base year (FY 1996), and the installations were arranged by state.<sup>7</sup> For the purposes of this analysis, main base load was considered to be in the industrial rate class, and family housing was considered commercial. This classification was made based on the differences in the size of these loads, the voltage level at which service is typically received, and the general usage characteristics. Base housing was not classified as residential usage since the housing units are typically not individually metered but rather are master-metered. Based on the expected prices contained in AEO97, the underlying expected growth rates were computed, and a regional price index for electric power was created. This index was applied to the base year cost of power for each installation to forecast the expected changes in the long-term price of electricity. The price forecasts were not used directly due to the varying costs of providing service to different installations, attributable to differences in usage characteristics (e.g., load factor), voltage levels, and related

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<sup>5</sup>AEO97 assumes a moderate decline in operations and maintenance expenditures as a reaction to competitive pressures. This reaction reflects utilities' preparation for open markets, but the forecast does not explicitly assume restructuring.

<sup>6</sup>AEO97 forecasts are broken down by North American Electric Reliability Council (NERC) region. Those regions are indicated in the map on page xiv of EIA's August 1997 report, *Electricity Prices in a Competitive Environment: Marginal Cost Pricing of Generation Services and Financial Status of Electric Utilities*.

<sup>7</sup>The development of the base year data, the sources relied upon, and the limitations of the data are discussed in Chapter 2 of this report.



considerations. The use of the price index allows changes in market price to be captured in the baseline without distorting actual installation-specific costs.

For purposes of developing a baseline, it was assumed that actual energy usage (MWh) at individual bases will remain constant over the full period of analysis. Therefore, the baseline projection of total costs will be the product of current usage multiplied by the forecast price of electricity for each year at each installation.

Since there remains a great deal of uncertainty related to restructuring activities in almost all of the states, it was necessary to make assumptions regarding the timeline of retail competition, the recovery of stranded costs, the period over which those costs may be recovered, and expected nominal price freezes that may or may not be imposed. Only 17 of the contiguous states have announced a date by which it is expected that open access to electric generation markets will be implemented. While these states are at different stages of the restructuring process, all have announced a date at which competition will begin, and most have rendered at least preliminary decisions regarding such issues as stranded cost recovery and rate freezes. Some states within this group will adopt full retail competition starting in 1998 and others as late as 2003.

The remaining 31 states have not yet issued dates for implementation of restructuring. Although some of the 31 states have reacted unfavorably to the prospect of permitting retail customer choice, it is assumed in this study that all states will, over time, enact retail open access. Although some states have determined that competition is not currently in the best interests of the state, it is unlikely that any state will continue to regulate the cost of generation while consumers in adjoining states are able to access competitive power markets.

Since the exact timeline of restructuring for the 31 states is unclear, some simplifying assumptions have been made to accommodate the analysis of potential savings. First, given the pace of deregulation in the group of 17 states that have made substantial progress toward open access, it is clear that most of the remaining states should have competitive markets in place by 2006. In

addition, while different states have their own methods by which utilities may recover stranded costs, most states appear inclined to allow full recovery of these costs. Furthermore, the period over which utilities may recover these costs (the "transition period") appears to average about five years. Therefore, it was assumed that those characteristics will apply to the entire group of 31.

Table 4.8 provides the estimated timeline for full implementation of retail open access. While issues related to stranded cost recovery have not been completely resolved in any of the states, assumptions have been made for purposes of analysis which are assessed to be the most reasonable based on current information.

**Table 4.8**  
**Assumed Timeline of Retail Competition and**  
**Stranded Cost Recovery Assumptions**

<u>Year</u>	<u>State</u>	<u>Stranded Cost Recovery</u>	<u>Recovery Period</u>
1998	California	Full Recovery	4 Years (ends 3/31/02)
	Massachusetts	<b>Full Recovery</b>	<b>5 Years</b>
	New Hampshire	60 Percent Recovery	<b>5 Years</b>
	New York	Full Recovery	<b>5 Years</b>
	Rhode Island	Full Recovery	3 Years
2000	Connecticut	Full Recovery	<b>5 Years</b>
	Maine	Full Recovery	<b>5 Years</b>
	New Jersey	Full Recovery	8 Years
2001	Maryland	<b>Full Recovery</b>	<b>5 Years</b>
	Nevada	<b>Full Recovery</b>	<b>5 Years</b>
	Pennsylvania	Full Recovery	<b>5 Years</b>
2002	Michigan	<b>Full Recovery</b>	6 Years
	Montana	<b>Full Recovery</b>	<b>5 Years</b>
2003	Arizona	<b>Full Recovery</b>	<b>5 Years</b>
	Illinois	Full Recovery	<b>5 Years</b>
	Indiana	<b>Full Recovery</b>	<b>5 Years</b>
	Washington	50 Percent Recovery	1999-2003
2006	<b>All Others</b>	<b>Full Recovery</b>	<b>5 Years</b>

Data in bold reflect most likely assumptions made due to lack of available data. Other entries reflect most recent and/or pending regulatory and legislative decisions.

Although open access is expected to induce market prices that are lower than current regulated rates, some states have mandated rate freezes or reductions to ensure that all customer classes will enjoy some immediate financial benefits from restructuring. Table 4.9 shows the states in which such actions are expected to take place or have been assumed.

**Table 4.9**  
**Rate Freeze/Rate Reduction Assumptions**

<u>State</u>	<u>Action</u>	<u>Period</u>
<b>California</b>	<b>Rate Freeze (nominal)</b>	<b>1998-2001</b>
Connecticut	Rate Freeze (nominal)	July 1997 - July 2000
New Jersey	10 Percent Rate Discount	October 1998 - July 2000
New York	10 Percent Rate Discount	<b>1998-2002</b>
Rhode Island	10 Percent Rate Discount	<b>1998-2000</b>
Illinois	15 Percent Rate Discount	<b>2003-2007</b>
<b>Montana</b>	<b>Rate Freeze (nominal)</b>	<b>2002-2007</b>
<b>Washington</b>	<b>Rate Freeze (nominal)</b>	<b>1999-2003</b>
<b>Group of 31</b>	<b>Rate Freeze (nominal)</b>	<b>2006-2010</b>

Actions in bold reflect assumptions used in the analysis of potential cost savings.

In addition to the announced rate actions, assumptions were required to address two situations characterized by a high degree of uncertainty. First, competitive prices in the Northwest Pool region of the Western Systems Coordinating Council are expected by DOE to exceed current regulated prices. Our assessment, however, is that in the current regulatory/political environment, regulators will not permit this situation to evolve. Therefore, the analysis relies on the assumption that the states in that region will, in the interests of consumer protection, implement a nominal rate freeze upon implementation of customer choice.

Second, it is assumed that for the states in the group of 31, a rate freeze will be implemented just prior to the start of open access, and that prices will be frozen at 2005 nominal levels for the entire transition period (i.e., 2006-2010).

For the purposes of this analysis, it is assumed that states will allow utilities to recover all of their stranded costs over a five-year transition period where no alternative has been articulated. In addition to approved rate actions, it is assumed that the group of 31 states, Montana, and Washington will all implement nominal rate freezes that span the transition period. For the 31 states, the rate freeze is assumed due to the fact that several state bodies have expressed a desire to guarantee some tangible savings to retail customers. The rate freeze is assumed to occur in Montana and Washington because market prices are expected to be well in excess of current regulated prices, and we have assessed it to be unlikely that the state regulatory bodies will allow customers to feel the immediate brunt of that price increase. A rate freeze would insulate customers from increased costs as the retail market for electricity makes the transition from regulation to open access.

In order to calculate the expected savings to DOD, a model was developed that compares the usage and cost baseline to the expected price changes. The Energy Information Administration's (EIA) August 1997 report, *Electricity Prices in a Competitive Environment: Marginal Cost Pricing of Generation Services and Financial Status of Electric Utilities* (EIA Report),<sup>8</sup> provides the best available comprehensive estimates of power supply costs expected to result from restructuring. Specifically, the EIA Report contains regional cost differentials between regulated and restructured markets. These cost differentials represent the difference between the report's projections of utilities' average cost of power and competitive power supply prices. These projections are made from 1998 through 2015, and EIA forecasts two scenarios. This report relies upon EIA's "Moderate Consumer Response Case," as it reflects the most likely set of circumstances under which restructuring is expected to occur. The "High Efficiency Case" contains assumptions believed to be overly optimistic and was therefore not considered in this analysis.

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<sup>8</sup>DOE/EIA report 0614, Distribution Category UC-905, August 1997.

The decisions by state regulatory bodies with respect to stranded cost recovery and systemwide rate freezes and discounts will determine the timing and magnitude of potential savings available. In the calculation of savings expected to accrue to DOD, two types of savings were contemplated. The largest source of potentially available savings are those directly related to the difference between regulated and market prices. However, in states that allow full recovery of stranded costs, these savings are available only following the transition period. Where stranded cost recovery is less than 100 percent (60 percent, for example, in New Hampshire), only a portion of savings is available. Since most states will (or are assumed to) allow for full recovery of stranded costs, these savings are usually only significant after the transition period has expired. Savings resulting from this type of price reduction, therefore, are computed as:

$$S_N = (P_R - P_C) * (1 - \beta)$$

where  $S_N$  is savings in year N,  $P_R$  is the regulated price,  $P_C$  is the price under competition, and  $\beta$  is the proportion of stranded cost recovery allowed by the state. Note that when  $\beta$  equals one, or 100 percent,  $S_N$  is equal to zero.

The second category of savings relates to systemwide rate freezes and discounts. When a rate freeze is implemented, the nominal price of power remains constant over the period of the rate freeze. However, as time passes, inflation has the effect of reducing the real cost of that power to customers. Essentially, the total cost of power declines at the general rate of inflation.<sup>9</sup>

When a rate discount is ordered, in each year following the implementation of the discount, the real price will equal the pre-discount price less the price discount, less the effects of inflation. Therefore, for a 10 percent discount, as in Rhode Island, the price in 1998 is equal to 90 percent of 1997 prices divided by (one plus the rate of inflation), or:

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<sup>9</sup>The rate of inflation used in this analysis is the projected GDP deflator.

$$P_N = \frac{P_0 * (1-d)}{(1+v)^n}$$

where  $P_N$  is price in year  $N$ , the period of the rate freeze is 1 to  $N$ ,  $d$  equals the rate of any systemwide discount applied,  $v$  equals the rate of inflation, and  $N$  indicates the number of years since the beginning of the rate discount.

For this analysis, rate discounts and freezes apply only during the transition period. Therefore, customers generally will not enjoy savings from a rate freeze at the same time as the savings from the price differential. Once both types of savings are calculated over the period of analysis, the total savings for each installation are determined in 1996 dollars and on a present value basis. Savings as a percentage of the baseline for each year are also calculated. The savings projections are shown in Section 4.3, below. Detailed savings calculations presented on a state-by-state and installation-specific basis are contained in Appendix C.

### 4.3 DOD SAVINGS ESTIMATES

The DOD savings estimates that have been developed are summarized in Table 4.10. Tables 4.11 through 4.14 provide analogous estimates for each of the individual service branches. On a present value basis, the DOD can expect to save approximately \$281 million over the 1998 through 2011 period relative to costs that would be incurred absent electric utility industry restructuring. This level of savings represents approximately 2.4 percent of the present value of electric power purchases over the 15-year analysis period.

Of the 17 states that have developed implementation dates for restructuring, the largest savings in absolute terms (real 1996 dollars) are from California (\$72.9 million), Washington (\$20.9 million), Illinois (\$17.2 million) and New York (\$15.8 million). Of these states, those within which the largest savings (real dollars) relative to the baseline can be expected are Illinois (6.22 percent) and New York (5.77 percent). The smallest percentage savings are projected to occur in

Massachusetts (0.07 percent), Maine (0.11 percent), Michigan (0.12 percent), Indiana (0.20 percent), and New Hampshire (0.21 percent).

**Table 4.10**  
**Summary of Estimated DOD Power Supply Cost Savings**  
**(1997-2011)**

<u>State</u>	<u>Baseline Cost</u> <u>(thousands of \$ 1996)</u>	<u>Savings</u> <u>(thousands of \$ 1996)</u>	<u>Savings as a Percent</u> <u>of Baseline Cost</u>
Arizona	\$ 317,436	\$ 1,333	0.42%
California	2,138,809	72,898	3.41
Connecticut	167,683	1,423	0.85
Illinois	267,814	17,226	6.22
Indiana	64,934	132	0.20
Massachusetts	162,985	122	0.07
Maryland	1,027,526	4,390	0.25
Maine	55,188	59	0.11
Michigan	57,522	68	0.12
Montana	69,251	2,309	3.33
New Hampshire	68,374	143	0.21
New Jersey	474,678	8,320	1.75
Nevada	116,887	1,039	0.89
New York	274,545	15,828	5.77
Pennsylvania	289,616	1,428	0.49
Rhode Island	130,620	4,663	3.57
Washington	600,288	20,867	3.48
Subtotal	\$ 6,293,154	\$152,248	2.42%
Remaining 31 States	\$ 9,653,272	\$260,687	2.70%
Total	\$15,946,426	\$412,935	2.59%
Present Value	\$11,878,330	\$280,748	2.36%

**Table 4.11**  
**Summary of Estimated Air Force Power Supply Cost Savings**  
**(1997-2011)**

<u>State</u>	<u>Baseline Cost</u> <u>(thousands of \$ 1996)</u>	<u>Savings</u> <u>(thousands of \$ 1996)</u>	<u>Savings as a Percent</u> <u>of Baseline Cost</u>
Arizona	\$152,783	\$ 637	0.42%
California	345,965	11,985	3.46
Connecticut	-	-	-
Illinois	116,042	7,243	6.24
Indiana	22,051	45	0.21
Massachusetts	109,372	73	0.07
Maryland	104,161	586	0.56
Maine	-	-	-
Michigan	-	-	-
Montana	69,251	2,309	3.33
New Hampshire	6,936	7	0.10
New Jersey	99,704	1,730	1.73
Nevada	83,702	765	0.91
New York	6,672	377	5.64
Pennsylvania	13,246	51	0.39
Rhode Island	-	-	-
Washington	77,997	2,965	3.80
Subtotal	\$1,207,883	\$ 28,772	2.38%
Remaining 31 States	\$3,436,974	\$ 92,816	2.70%
Total	\$4,644,857	\$121,588	2.62%
Present Value	\$3,443,466	\$ 78,866	2.29%



**Table 4.12**  
**Summary of Estimated Army Power Supply Cost Savings**  
**(1997-2011)**

<u>State</u>	<u>Baseline Cost</u> <u>(thousands of \$ 1996)</u>	<u>Savings</u> <u>(thousands of \$ 1996)</u>	<u>Savings as a Percent</u> <u>of Baseline Cost</u>
Arizona	\$111,635	\$490	0.44%
California	160,859	4,959	3.08
Connecticut	-	-	-
Illinois	68,962	4,257	6.17
Indiana	1,649	3	0.20
Massachusetts	20,328	19	0.09
Maryland	566,977	1,891	0.34
Maine	-	-	-
Michigan	57,522	68	0.12
Montana	-	-	-
New Hampshire	8,506	11	0.13
New Jersey	289,347	5,112	1.77
Nevada	7,275	70	0.96
New York	267,803	15,451	5.77
Pennsylvania	186,115	942	0.51
Rhode Island	-	-	-
Washington	141,260	4,204	2.98
Subtotal	\$1,878,308	\$ 37,478	2.00%
Remaining 31 States	\$3,310,790	\$ 89,408	2.70%
Total	\$5,189,098	\$126,886	2.45%
Present Value	\$3,865,949	\$84,754	2.19%

**Table 4.13**  
**Summary of Estimated Navy Power Supply Cost Savings**  
**(1997-2011)**

<u>State</u>	<u>Baseline Cost</u> <u>(thousands of \$ 1996)</u>	<u>Savings</u> <u>(thousands of \$ 1996)</u>	<u>Savings as a Percent</u> <u>of Baseline Cost</u>
Arizona	\$1,224	\$ 5	0.37%
California	1,306	45,537	3.49
Connecticut	1,414	1,423	0.85
Illinois	167,683	5,726	6.24
Indiana	91,810	84	0.20
Massachusetts	41,234	31	0.09
Maryland	366,388	1,913	0.52
Maine	55,188	59	0.11
Michigan	-	-	-
Montana	-	-	-
New Hampshire	52,932	125	0.24
New Jersey	85,626	1,478	1.73
Nevada	25,910	204	0.79
New York	-	-	-
Pennsylvania	90,254	434	0.48
Rhode Island	130,620	4,663	3.57
Washington	381,031	13,698	3.59
Subtotal	\$2,829,599	\$ 75,380	2.66%
Remaining 31 States	\$2,319,817	\$ 62,646	2.70%
Total	\$5,149,416	\$138,026	2.68%
Present Value	\$3,836,301	\$98,524	2.57%

**Table 4.14**  
**Summary of Estimated Marine Corps Power Supply Cost Savings**  
**(1997-2011)**

<u>State</u>	<u>Baseline Cost</u> <u>(thousands of \$ 1996)</u>	<u>Savings</u> <u>(thousands of \$ 1996)</u>	<u>Savings as a Percent</u> <u>of Baseline Cost</u>
Arizona	\$ 51,793	\$ 202	0.39%
California	325,570	10,417	3.20%
Connecticut	-		
Illinois	-		
Indiana	-		
Massachusetts	-		
Maryland	-		
Maine	-		
Michigan	-		
Montana	-		
New Hampshire	-		
New Jersey	-		
Nevada	-		
New York	-		
Pennsylvania	-		
Rhode Island	-		
Washington	-		
Subtotal	\$377,363	\$10,619	2.81%
Remaining 31 States	\$585,691	\$15,817	2.70%
Total	\$963,055	\$26,436	2.75%
Present Value	\$719,039	\$18,069	2.51%

In the 31 states that have not set dates for restructuring, and have not announced stranded cost recovery information, the range of savings in percentage terms is relatively narrow -- 1.50 percent to 3.4 percent. Those states with the largest absolute level of savings (in real terms) are those states within which the largest baseline expenditures are projected to be made (i.e., Virginia (\$39.9 million in savings), Texas (\$30.0 million in savings) and North Carolina (\$28.6 million).

The factors affecting the percent of savings resulting from restructuring include: (1) the relationship between forecasted regulated and competitive prices; (2) the percentage of stranded

costs permitted to be recovered; (3) the length of the transition period; (4) the length of time following the conclusion of the transition period that is contained in the analysis period, which ends in 2011; and (5) the existence of a rate freeze or discount.

Table 4.15 compares the share of total power costs (present value) over the 15-year analysis period with the percentage share of total present value savings for each of the service branches.

**Table 4.15**  
**Shares of PV Costs and Savings for**  
**the Major Service Branches**  
**(1997-2011)**

	<u>Share of PV Costs</u>	<u>Share of PV Savings</u>	<u>Savings Share Divided by Cost Share</u>
Air Force	29.3%	26.9%	0.92
Army*	31.7	30.7	0.97
Navy	32.9	35.4	1.08
Marine Corps	<u>6.1</u>	<u>7.0</u>	1.14
Total	100.0%	100.0%	

\*Includes Defense Logistics Agency.

As seen from Table 4.15, both the Air Force and the Army cover a larger share of costs than are received as savings. This is in contrast to the Navy and the Marine Corps which face the reverse situation. This is largely due to the large Navy and Marine presence in California, where a higher-than-average percentage of savings is available (3.41 percent compared to 2.62 percent, on average, in real dollar figures).

## **5. CENTRALIZATION OF THE COMPETITIVE PROCUREMENT FUNCTION**

### **5.1 INTRODUCTION**

Accompanying the opportunity to competitively procure retail electric power supplies by military installations is the need to develop a procurement mechanism to facilitate the DOD's ability to effectively and efficiently conduct the procurement function. In Chapter 2 of this report, the methods by which electric power supplies are currently procured by military installations was addressed. This chapter focuses on the potential benefits and costs associated with retaining or potentially modifying current electric power procurement methods with respect to the acquisition of electric power. In particular, the degree to which centralization of the procurement function can be expected to affect acquisition costs, as well as related costs, is addressed. Other, less quantifiable, issues related to centralization of the procurement function are also addressed.

### **5.2 CENTRALIZATION OF COMPETITIVE ACQUISITION**

#### **5.2.1 INTRODUCTION AND FRAMEWORK OF ANALYSIS**

For the reasons discussed previously in this report, military installations cannot systematically competitively procure electric power in the current legal and regulatory environment. In special circumstances, as addressed in Chapter 2, it may be possible for an individual installation to compete its electric load, but these circumstances are rare and emerge infrequently. Consequently, centralization of competitive acquisition was heretofore moot.

During the next fiscal year, competitive acquisition of electric power will be possible in California and Massachusetts. Over the next seven years, the opportunity to competitively procure electric power supplies for military installations is expected to be available in as many as 20 states, though these states will be geographically dispersed. Within 10 to 12 years, it is expected that virtually all states will provide the DOD with competitive acquisition opportunities. Consequently,

decisions regarding how power will be purchased competitively, and the degree to which the competitive power procurement function should be centralized, need to be made to assure a smooth and efficient transition to procurement operations in a competitive environment.

The concept of centralization should not be viewed all-or-nothing. Rather, there are differing degrees of centralization that are each consistent with the current institutional arrangements within the DOD and in place for the three major service branches. At one extreme is full decentralization, where power procurement in a competitive environment would be conducted in a manner similar to the way in which power is procured in the current regulatory environment. Specifically, bases would each individually issue solicitations, developed with assistance as required from the service branch utility centers and with additional assistance as required from the major command level.

At the opposite extreme is full centralization. Under this arrangement, a centralized DOD procurement office would be responsible for identifying load requirements for all installations in the relevant region, developing the solicitation, evaluating the proposals, and awarding the contracts for the electric power supplies and other utility services as may be needed.

There are several intermediate degrees of centralization that are currently employed in the DOD for various aspects of the utility-related activities. The potential alternative centralization arrangements are shown in Table 5.1.

Several factors influence the degree to which centralization of competitive power procurement is desirable. These factors, which form the basis of the analysis presented later in this section, include the following:

- Administrative costs;
- Consistency among contemporaneous and sequential solicitations;
- Aggregation of loads;

**Table 5.1**  
**Alternative Power Procurement Centralization Arrangements**  
**(most centralized to least centralized)**

- All DOD competitive electric power procurements are conducted by a single government entity;
- Most DOD competitive electric power procurements are conducted by a single government entity, with certain procurements being conducted by the affected service branch for bases requiring specialized power supply arrangements.
- Large loads are procured through a centralized government agency with the remainder of the loads procured by the relevant service branch, including loads characterized as requiring special arrangements;
- All electric power procurements are conducted by the lead service branch;
- All DOD competitive power procurements are conducted by the service branches for bases within the branch and as requested for other service branches; and
- All DOD competitive power procurements are conducted by the individual bases with support as required from the relevant service branch.

- Impacts on and coordination with other utility-related activities (e.g., rate case intervention, energy conservation/demand-side management agreements, special facilities);
- Ability to respond to special circumstances (e.g., high reliability requirements, on-base generation); and
- Development/maintenance of power procurement expertise.

Each of these factors is discussed below.

### **5.2.2 ADMINISTRATIVE COSTS**

Administrative costs are the only quantifiable item on the list of factors addressed. Because of the substantial uncertainty surrounding the future conditions under which power will be

competitively procured, the figures estimated for the administrative costs associated with competitive procurement should be viewed as rough.

The Defense Fuels Supply Center (DFSC) of the Defense Logistics Agency (DLA) has prepared an analysis of personnel requirements to conduct competitive power supply procurement on a centralized basis. The costs represented correspond to the highest level of centralization shown in Table 5.1. DFSC estimates that 26 full-time employees would be required to conduct centralized acquisition of electric power competitively for all military installations in the U.S. This corresponds to an annual cost of approximately \$1.5 million. Underlying this estimate are numerous assumptions regarding the frequency with which competitive solicitations will be conducted, the degree of load aggregation that will be undertaken, and the level of coordination required between DFSC and the service branches and DFSC and the individual bases.

The level of staffing for the competitive procurement of electricity is roughly in line with the level of DFSC staffing currently in place for the centralized competitive acquisition of natural gas, which DFSC undertakes on behalf of approximately 200 installations, including some federal government installations outside of the DOD. Some of the activities currently being undertaken by DFSC as part of their gas procurement program are directly employable for competitive procurement of electric power. For example, DFSC maintains a market research group that provides daily information on market prices, industry events, and regulatory decisions likely to affect the markets for electricity as well as for natural gas.

It is DFSC's estimate that, if given the mission for centralized competitive acquisition of electric power, an initial addition of eight full-time employees would be required. As more states permit customer choice, the number would increase up to the full complement of 26. DFSC also indicated that for the initial solicitation, it would be anticipated that contractor support would be required to address particular issues associated with the development of the solicitation vehicle and assess alternative options related to competitive acquisition.



It is noted that in addition to the DFSC employees devoted to competitive acquisition of power supplies, base level personnel will need to develop information on their power requirements and load characteristics. Cooperation from base-level personnel, particularly base civil engineering and contracting, will be required to ensure the accuracy and reasonableness of current and projected requirements.

Reducing the level of centralization so that only a portion of DOD installations were covered in a given solicitation would require service arrangements for the remainder to be handled by either service branches or the individual installations. In this event, it is not anticipated that there would be a significant decline in centralized resource requirements. Increased resources, however, would be required from the service branch utility support centers.

Through discussions with representatives from the service branch utility support centers, it was determined that increases in the number of full-time employees from current levels are not anticipated to accommodate competitive acquisition of electric power. This would be the case whether the competitive acquisition function was centralized at the DOD level, or if competitive acquisition was to be performed by the service branches directly. Further, staffing levels at the service branch utility centers would be expected to remain unchanged regardless of whether the solicitations were conducted on a fully disaggregated (i.e., base level) basis with technical, contracting, and legal support provided by the centers; whether the solicitations were partially centralized, e.g., covering all bases within a service branch within a particular geographic boundary; or whether the solicitation was made under a "lead service" arrangement such that the lead service, typically the service branch having the largest load in the state, would conduct the solicitation on behalf of all DOD installations within the state, regardless of service branch affiliations.<sup>1</sup>

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<sup>1</sup>Currently, lead services are identified by utility service area rather than on a state level. Were a lead service arrangement to be adopted, agreement among the service branches would need to be obtained to designate a lead service for each state.

While staffing levels would not be expected to change, the level of contractor support would need to be increased to accommodate the competitive solicitation. Contractor support would largely be technical in nature rather than support for the legal and contracting areas of the solicitation.

The level of contractor support needed will vary depending on a range of factors, including:

- the number of installations covered in the solicitation;
- whether installations from different service branches are included in the solicitation, as would be the case under a lead-service arrangement;
- whether additional utility services are folded into the solicitation, such as energy conservation and demand-side management;
- the degree to which requirements data from the individual installations are adequate to accommodate the competitive solicitation;
- the degree to which pre-existing contractual arrangements need to be addressed, e.g., evaluation of termination for convenience conditions in existing contracts; and
- the duration of contracts, i.e., the frequency with which solicitations need to be issued.

A very rough estimate of required contractor costs to accommodate competitive solicitations handled by the service branch utility support centers would be between \$500,000 and \$750,000 per year per service branch, i.e., a total of between \$1.50 million and \$2.25 million per year, assuming each service branch addresses between 5 and 6 states per year.<sup>2</sup> This level of effort is consistent with a lead service approach relying on solicitations culminating in three-year contracts. Total costs

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<sup>2</sup>This cost estimate is based on contractor costs incurred in other competitive solicitations prepared on behalf of the U.S. Department of Energy and competitive solicitations prepared by two U.S. Air Force bases. The cost estimates include substantial judgmental adjustment to recognize some states will require little, if any, contractor support while other states will require more. This cost estimate also includes contract specialist support from the bases and the utility support centers of the service branches. It is also assumed that legal support would be provided by the utility support centers.

would increase by between 50 and 100 percent were each service branch utility support center to perform solicitations for all bases within its respective service branch. It is not envisioned that solicitations prepared by the bases individually would add appreciatively to the costs of the utility service centers conducting the solicitations by aggregating bases within a state. The reason for this is that the elements included in a base-specific set of solicitations for a particular service branch would need to include the information contained in a state-wide competitive solicitation.

These very rough estimates suggest that the costs under a DOD-wide centralized approach (e.g., DFSC) and a lead service approach are approximately equivalent. The costs associated with a decentralized approach, however, may be significantly higher. These estimated costs are summarized in Table 5.2.

**Table 5.2**  
**Estimated Competitive Acquisition Administration Costs**

Fully Centralized Approach*	\$1.50 - 2.00 million/year
Lead Agency Approach**	\$1.50 - 2.25 million/year
Fully Decentralized Approach**	\$2.25 - 4.50 million/year

\* Information provided by DFSC. Average cost per employee currently is approximately \$60,000/year, multiplied by 26 full-time employees equals \$1.560 million/year. The upper end of the defined range includes an adjustment for increased TDY travel and limited contractor support.

\*\* Rough estimates based on discussions with service branch utility support center personnel and contractor costs incurred for prior competitive solicitation preparation and evaluation.

### 5.2.3 CONSISTENCY

There is a benefit associated with maintaining consistency among solicitations issued.<sup>3</sup> Although it is expected that the nature of solicitations will vary over time to capture the effects of changes in the market and to refine the solicitations issued to reflect lessons learned, consistency in the formatting of the solicitation and the formatting of required bid documents will lower the costs of bid preparation, possibly resulting in marginally lower bids and an increased number of bidders.

Consistency in the solicitation is most easily achieved through a centralized acquisition process, but there are no significant barriers to consistency from less centralized arrangements. What is required to accommodate consistency in a less-than-fully centralized competitive acquisition approach is agreement among the service branches to adhere to a uniform formatting requirement. Similar agreement among the service branches has been routinely achieved in energy usage and cost data reporting, coordination in utility rate case proceedings, and contract language in energy conservation and demand-side management agreements with utility service providers.

Consequently, it is assessed that while consistency is desirable, it can be achieved under both highly centralized and less centralized arrangements.

### 5.2.4 AGGREGATION OF LOADS

To accommodate aggregation of loads, some degree of centralization is required. The greater the level of aggregation desired, the greater the level of centralization that is needed. Aggregation of loads is discussed fully in Chapter 6 of this report and the discussion of load aggregation suggests that at least a moderate level of load aggregation is desirable to capture the benefits of load diversity, to provide market leverage, and to reduce administrative costs. The level of aggregation

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<sup>3</sup>While it is recognized that the contracting vehicle will need to reflect special circumstances associated with particular states or regions, and also reflect special circumstances related to individual installations as may be required, potential bidders have repeatedly indicated a strong desire for a consistent solicitation format, consistent FAR clauses, and a consistent bid format, based on information provided by DFSC from meetings held with potential bidders. Such consistency serves to reduce bid costs, which (presumably) would be reflected in the costs to DOD.

recommended falls in the range of roughly 75 to 125 mW. This level of load aggregation is achievable in some states within a given service branch (e.g., California), while in other states (e.g., Oregon), the aggregate DOD load is insufficient to meet a 75 mW total.

The desirability of load aggregation cannot be achieved under the current electric power procurement approach, i.e., individual bases securing electric power supplies. At a minimum, the solicitation would need to be developed by the service branches, through the utility support centers. In many circumstances, the service branches would need to aggregate loads across service branches, pointing to the benefit of a lead service approach. Obviously, a fully centralized approach would be able to adequately handle aggregation of loads.

#### **5.2.5 IMPACTS ON OTHER UTILITY-RELATED ACTIVITIES**

There are numerous other activities associated with electric utility service that are not directly related to the power supply acquisition function. Such activities include rate case intervention, dealing with federal preference power issues, securing and administering energy conservation/demand-side management agreements and ESPCs, addressing issues concerning facility upgrades, privatization, reliability and safety, rebilling of tenant organizations, and energy use and cost reporting. There are unquantifiable economies and synergies associated with linking the procurement function to other activities related to electric utility service. Numerous concrete examples are available, including:

- Through an attempt by Holloman AFB to secure competitive power supplies, an agreement was reached with the franchised utility that resulted in estimated savings of \$750,000 through energy conservation project funding by the utility and an agreement to wheel additional amounts of Western power to the base.
- Through negotiations with the Sacramento Municipal Utility District regarding Western power deliveries, an agreement was reached regarding alternative power supplies with a price pegged to short-term firm power prices in the Pacific Northwest. This arrangement resulted in power supply cost savings of approximately \$800,000 per year.

- In the context of a rate case proceeding involving the City of Tacoma, questionable facilities charges to Fort Lewis were discovered. Additionally, implementation of the negotiated rates clause in the City's contracts with the DOD were agreed upon with the utility which streamlined the rate agreement process and significantly reduced administration costs for two DOD facilities.

The rate case intervention function is delegated to the service branches by the GSA. As a consequence, that function will clearly continue to reside with the individual service branches. Absent centralization of all electric utility support functions, the service branch utility support centers will continue to provide support as is currently performed. Centralization of the procurement function will potentially negatively affect the synergies that characterize utility service support. This negative impact can be minimized, however, by development of a close working relationship between a centralized group and the utility support centers. Also of significant importance in the mitigation of the potential adverse impacts as noted above would be the establishment of processes to augment information flows.

#### **5.2.6 RESPONSIVENESS TO SPECIAL CIRCUMSTANCES**

Because the utility support centers have had traditionally close working relationships with base personnel, information related to special requirements and circumstances at individual bases resides with the centers as well as with the bases themselves. An advantage in structuring a competitive solicitation to gain the benefits of special circumstances, or to avoid potential problems that can emerge from a solicitation that fails to account for special circumstances, is held by the individual bases and with the utility support centers.

As with the issue of synergies emerging from other utility-related activities, coordination between the utility support centers and a centralized acquisition agency could mitigate the potentially adverse consequences of inadequate and/or inadequately detailed information.

### **5.2.7 DEVELOPMENT/MAINTENANCE OF POWER PROCUREMENT EXPERTISE**

Recognition of this factor will allow DOD to benefit from lessons learned, retain a corporate knowledge, and over time improve the quality (and hence savings) that are available through competitive power acquisition. Developing and maintaining power procurement expertise requires at least a minimum level of centralization or extensive support to the individual bases.

The development and maintenance of expertise is most conveniently achieved through centralization of the procurement function at the DOD level or the service branch level. Development of expertise at the base level would require a substantial investment in training which would need to be on-going given the duty rotation of base level personnel. It is noted that a DOD-level centralized agency can be expected to rely more heavily on in-house personnel than would the service branches, which anticipate a higher degree of reliance on contractor support. Higher reliance on in-house personnel likely confers a greater opportunity to develop and maintain power procurement expertise.

### **5.2.8 SUMMARY AND SYNTHESIS**

Based on the discussion contained in this chapter, there are both advantages and disadvantages associated with differing degrees of centralization of the procurement function. These advantages and disadvantages are summarized in Table 5.3.

The conclusion drawn is that centralization to at least the service branch level is desirable. This provides benefits related to aggregation of loads, administration costs, consistency, and developing/maintaining expertise. The appropriate level of centralization is less clear. To the extent that centralization at the DOD level provides advantages over centralization at the service branch level, or vice versa, the shortcomings of the alternative approach appear to be amenable to mitigation. Consequently, there appears to be no preferred approach related to these two options and either one should provide DOD with an efficient and effective means to solicit competitive supplies of electric power.

**Table 5.3**  
**Summary of Advantage/Disadvantages**  
**of Centralized Procurement**

	<u>Centralization at DOD Level</u>	<u>Centralization at Service Branch Level</u>	<u>Base-Level Decentralization</u>
Administrative Cost	Low	Low to Moderate	High
Consistency	High	Moderate to High*	?
Aggregation of Loads	High	Moderate*	Low
Impacts on Other Utility- Related Activities	Low*	High	Low
Responsiveness to Special Circumstances	Moderate*	High	High
Development/Maintenance of Expertise	High	Moderate to High	Low

\*Adverse effects can be at least partially mitigated.



## **6. AGGREGATION OF LOADS**

### **6.1 INTRODUCTION**

One of the fundamental decisions facing the government upon the introduction of retail competition is the extent to which the DOD should aggregate the electric power loads of multiple installations in a competitive power supply solicitation. There are both costs and benefits associated with aggregating load, as well as factors that limit the degree to which loads can be aggregated, particularly in the short-run. The assessment of the appropriate level of load aggregation will be based on transaction and solicitation/contract administrative costs, regulatory and institutional arrangements within a state or region, and previously existing contractual arrangements between the installations in a region and the utilities serving those installations.

Of particular importance is the relationship between the level of load aggregation and transmission charges. In particular, the degree to which the load at a given installation can be served only by incurring transmission charges over multiple systems will limit the degree to which aggregation of loads can be economic.

An important distinction needs to be made between aggregating loads and incorporating multiple loads into a single competitive solicitation. It is possible to include multiple installations into a single solicitation with the load at each installation appearing as a separate contract item and awards made to multiple suppliers. The discussion of load aggregation that follows relates to defining a particular load to be served by a single contractor. It follows, therefore, that several aggregated loads may be included in a single solicitation, with each aggregated load appearing as an item to be awarded, potentially to different suppliers.

As discussed in the previous chapter, a nexus exists between the issue of load aggregation and the degree to which procurement is centralized. If procurement is conducted on a maximally

decentralized basis, that is, at the base level, the issue of load aggregation largely disappears since no systematic mechanism would exist for aggregating loads for multiple installations.<sup>1</sup> As noted in Chapter 5, load aggregation requires at least a minimal degree of centralization of the procurement function.

## **6.2 GEOGRAPHIC AGGREGATION**

### **6.2.1 INTRODUCTION**

There are three alternative geographic levels over which DOD (or the individual service branches) could combine the loads at individual installations in a competitive procurement. First, loads within a given state could be aggregated and the competitive solicitation would seek a single supplier to serve the aggregate load. As a variation of this option, loads could be aggregated within a particular region of a given state, for example, Northern California. This alternative could be appropriate if the transmission rate methodology established by the state makes a state-wide solicitation uneconomic, that is, if multiple transmission charges (pancaked rates) are incurred to transmit power over the transmission systems of multiple utilities.

Finally, it may be possible to aggregate loads regionally across state lines. This option, however, is not likely to be viable in the near term under any circumstances, given the limited degree to which retail open access is anticipated to exist in neighboring states.

### **6.2.2 STATE-WIDE AGGREGATION**

Combining the loads of all (or selected) DOD installations within a state is likely to be the maximum level of load aggregation possible for the DOD to achieve in the short-run. This is attributable to the pace at which retail competition is being introduced across the U.S. Our review plainly indicates that movement toward retail competition is a geographically uneven process. Open access throughout the U.S. is likely to require between 10 to 15 years to fully implement. The base

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<sup>1</sup>A solicitation developed at the base level can reflect aggregation of loads for multiple on-base delivery points if the base is metered at multiple locations, e.g., main base and family housing.

year data developed in Chapter 2 indicate that DOD energy purchases in the 17 states that have identified implementation dates for customer choice represent 34 percent of total DOD energy purchases on a mWh basis. The remaining states, many of which have not yet begun to systematically address the issue of customer choice, represent 66 percent of DOD electric energy purchases.

Even where a state permits retail competition, however, the ability to combine loads depends upon the manner in which transmission charges are assessed for customers electing to obtain power from alternative suppliers. If DOD facilities in a state are served by multiple utilities, it could be necessary to transmit power across two or more systems to serve the loads of some of the installations comprising the aggregate load. Each utility along the path between the supplier and the load may be able to charge for transmission services in this circumstance, producing what is referred to as multiple, or pancaked, transmission rates. Although individual transmission charges typically could range from 3 to 5 mills, adding multiple transmission charges could be sufficient to alter the cost-effectiveness calculus.

In contrast to the pancaked transmission charges noted above are the transmission charges that will be assessed under the retail customer choice structure adopted in California. There, the movement to retail competition is accompanied by an order from the California Public Utilities Commission (CPUC) requiring utilities in the state to form an independent entity, the Independent System Operator (ISO), to operate the transmission grid within California. The ISO is required to make transmission service available at a single, non-pancaked rate throughout the state. Under this ISO structure, multiple transmission charges would not be an impediment to the aggregation of DOD loads on a state-wide basis.

### **6.2.3 REGIONAL AGGREGATION**

The aggregation of DOD loads on a regional basis is only a long-run option for reasons discussed above. The long-run here is defined as the time frame in which customer choice is the principal means by which consumers purchase electric power throughout the U.S. In that setting,

the two factors affecting the economic desirability of aggregating loads will be the availability of transmission service at non-pancaked rates and market issues related to the overall size of the aggregated load. Load size considerations are fully discussed in Section 6.3.

On a regional basis, the cost of transmission between a centrally located source of supply and DOD installations dispersed throughout numerous states within a given geographic region is likely to add significant charges to power supply costs. Each utility on the transmission path or, more favorably, each ISO on the transmission path, may be able to add its own transmission charge and, when loads are aggregated on a regional basis, total transmission charges could be significant. One way that transmission charges would not become an economic impediment to combining load on a regional basis is if a regional ISO is charged with operating the transmission grid. Transmission service could then be provided at a single, regional rate.

At present, we are aware of only one area in which a single ISO is charged with operating the transmission grid in a multi-state region. In Maryland, Delaware, New Jersey, and Western Pennsylvania, the Pennsylvania-New Jersey-Maryland Interconnection (PJM), the nation's oldest power pool, has been reformed so that the PJM transmission system is operated by an ISO. Transmission service throughout the pool is available at a single rate, depending only on the location of the load. While no other proposals to form regional ISOs of this kind have been announced, we are aware of continuing discussions among utilities in parts of the Midwest to establish such entities to operate the regional transmission grid. The existence of regional ISOs charging non-pancaked transmission rates would provide DOD with additional flexibility in considering the benefits of regional aggregation of electric power loads.

An additional factor that must be recognized in assessing the desirability of aggregating loads is the creativity of market participants operating in a competitive environment. Even under conditions of pancaked transmission rates, potential suppliers may be able to exploit opportunities in the market through agreements with other suppliers incurring pancaked transmission charges. In the existing competitive natural gas market, exchanges of natural gas between and among suppliers

to minimize joint transportation charges are commonly made. There is no reason to expect any less creativity on the part of retail electric power suppliers. Whether such arrangements at the retail market level can, and will, be routinely and commonly available and feasible remains to be determined following market restructuring.

## **6.3 LOAD SIZE CONSIDERATIONS**

### **6.3.1 INTRODUCTION**

A separate issue related to electric power load aggregation, regardless of the geographic boundaries associated with the aggregated load (sub-state, state, or multi-state), is the absolute size of the aggregated load. The absolute size of the aggregated load can be expected to affect the ultimate power supply due to the "market leverage" embodied within the solicitation and the DOD's ability to capture diversity benefits associated with multiple loads aggregated to a single load.

### **6.3.2 MARKET LEVERAGE**

Aggregation of DOD loads within a given geographical area has implications for the degree to which the government can leverage its position as a large (or the largest) purchaser of electric power within a given market. To obtain the advantages of size, however, it is not necessary that all military loads within a region be aggregated. On a stand-alone basis, the loads at military installations are frequently the largest loads, or among the largest loads, served by utilities. It should also be recognized that, with the exception of a relatively small number of manufacturing and processing facilities, competitive acquisition of retail loads much above 50 mW will be rare.<sup>2</sup> Even relatively small military installations are characterized by peak demands of between 3 to 7 mW, and military bases with loads in excess of 20 mW are not uncommon. Consequently, an aggregated load of between 75 and 125 mW could be developed by aggregating perhaps 10 to 20 installations and, in some regions, considerably fewer than 10 installations. It is noted, however, that in certain

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<sup>2</sup>Exceptions are likely to include state government solicitations, which may be on an aggregated basis, and ad hoc groups of industrial customers.

regions, the total DOD load is relatively small. For example, the total DOD load in Michigan is less than 15 mW and in Wisconsin it is less than 20 mW.

To obtain market leverage, however, it may not be necessary to aggregate loads, but merely to structure the solicitation such that the total load for all installations contained in the solicitation exceeds some threshold level. The relationship of this concept to benefits from the diversity of peak demand for multiple users is discussed below.

### 6.3.3 DIVERSITY

By aggregating the loads of several installations into a single load, total peak demand requirements are reduced. The reduction in peak demand of the aggregated load may translate into reduced power supply costs compared to the power supply costs if the loads were separately and individually competed. The reason why peak demand is reduced through aggregation of load is that each installation will establish its individual peak demand at a time at least slightly different than the time at which the other installations will establish their respective peaks. The diversity in timing causes the aggregate peak demand to be lower than the sum of the individual peak demands.<sup>3</sup>

To maximize the benefits, i.e., cost savings, available from aggregation of loads at multiple installations, in general, loads would need to be combined in a manner that would maximize the aggregate load factor.<sup>4</sup> It needs to be recognized, however, that the total reduction in the cost of

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<sup>3</sup>If all installations reach their respective peak demands at the same time during the month, the sum of the individual peaks will equal the peak demand for the aggregated load. Under no circumstances, however, can the peak demand for the aggregated load exceed the sum of the peak demands for the individual installations.

<sup>4</sup>The monthly load factor for an individual installation is defined as:

$$LF_{mi} = \frac{KWH_{mi}}{(KW_{mi} \times H_m)} \times 100$$

where:

LF is load factor;

KWH is kWh energy consumption during the month;

KW is the kW peak demand recorded during the month;

service is dependent upon the other, non-DOD loads served by the potential service provider as well as the mix of resources that will be relied upon to serve the load. Furthermore, regional market factors will define the opportunity costs faced by the potential supplier, that is, the price that the potential supplier can secure in the market.

Based on analysis of diversity performed for several military installations (McClellan AFB, Edwards AFB, and Vandenberg AFB) and for other non-DOD government installations (the Department of Energy's Savannah River Site and Hanford Reservation), diversity factors for loads at a single installation tend to hover around 95 percent. The diversity factor will tend to decline when loads of different installations are combined due to differences in operations and, importantly, differences in weather. DOD loads, while not generally extremely weather sensitive, do fluctuate based on weather conditions. Weather conditions within a state can vary substantially at any given time, resulting in higher levels of diversity. In California, DOD installations in and around the Bay region (e.g., San Bruno (Navy) and Onizuka AFB) will experience weather conditions different from those experienced by the Navy installations in San Diego, the Presidio of Monterey, and Edwards AFB located in the Mojave Desert. While, as a general rule, military bases tend to exhibit loads that rise through mid-morning, decline slightly, then peak between 2:00 and 4:00 in the afternoon, combining loads of installations located in climatically different areas can be expected to result in diversity factors of 80 to 90 percent.

Clearly, there are a myriad of factors affecting the identification of the optimal (cost-minimizing) aggregation of load. The most efficient means of securing any potential benefits that

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H is the number of hours in the month  
 m denotes the month; and  
 i denotes the installation

The monthly load factor (aggregated) is defined as:

$$LF_{MI} = \left( \frac{\sum_i KWH_{mi}}{KW_{MI} \times H_M} \right) \times 100$$

where:

I denotes the aggregated group of installations; and all other terms are as previously defined.

may exist is to permit potential power suppliers themselves to determine the least-cost aggregation method in the competitive solicitation. To benefit maximally from this approach, data regarding hourly load profiles for the installations covered in the solicitation should be made available to prospective bidders. In making such information available, aggregation of loads by bidders could be made intelligently, and uncertainty regarding costs of providing service would be reduced. The reduction in the degree of uncertainty, one element of risk, will tend to result in lower-cost offers than would otherwise be the case.

Allowing bidders to aggregate loads for installations separately identified in a solicitation poses a potentially serious problem in evaluating the bid responses. To eliminate this problem, bidders should be instructed to provide cost proposals for the individual installations as well as be permitted to bid on loads aggregated by the bidder. This approach also provides DOD with important information related to the benefits of load aggregation, using market-based data. The information obtained through this process should be used to refine the approach in subsequent solicitations as more market experience is gained.



## **7. ADDITIONAL ISSUES RELATED TO COMPETITIVE ACQUISITION OF ELECTRIC POWER**

### **7.1 INTRODUCTION**

This chapter addresses several issues that are tied to competitive acquisition of electric power supplies by the DOD and which need to be considered in the development of an overall competitive acquisition strategy. In particular, this chapter discusses the following topics:

- Use of O&M funds saved through the competitive acquisition process for implementation of energy conservation and demand-side management at military installations and for infrastructure improvements;
- Methods by which privatization of on-base utility systems can be accommodated without adversely affecting the potential to achieve savings through competitive acquisition of electric power supplies;
- Issues related to power provided to military installations by federal power marketing administrations;
- Data collection requirements; and
- Procurement of ancillary services.

### **7.2 USE OF SAVINGS**

To ensure satisfaction of the energy use reduction requirements specified in the Energy Policy Act of 1992 and Executive Order No. 12902, military installations have evaluated and implemented a wide array of energy conservation initiatives. The funding for these demand-side management and energy conservation projects has come from a variety of sources, including Energy Savings Performance Contracts (ESPCs) between the government and energy service companies (ESCOs), demand-side management/energy conservation contracts between the installation and the energy service provider, and through the Energy Conservation Investment Program (ECIP) and the

Federal Energy Management Program (FEMP). The level of funding required to accommodate the full range of economic, feasible, and desirable demand-side management and energy conservation projects, however, has tended to exceed the level of funds available for these projects. As a consequence, opportunities for cost-effective energy conservation and demand-side management projects remain available. One possible use for the savings that may be generated from the competitive acquisition of electric power is for the government to invest those savings in energy conservation and demand-side management projects.

A second potential use of the savings that may be achieved through competitive acquisition of electric power is for the funding of utility system infrastructure upgrades at military installations. Funding for infrastructure improvements has historically been difficult to obtain. Improvements to utility system infrastructure can be anticipated to have the following effects:

- foster increased safety;
- generate savings through the increased ability of base personnel to control loads;
- enhance power supply reliability;
- increase the availability and reliability of usage-related data; and
- reduce costs through increased efficiency.

As noted in Chapter 4 of this report, it is not expected that the level of savings available to the DOD through competitive acquisition of electric power will be substantial in the short-term. Additionally, power supply costs in the short-term (as well as in the long-term) may increase for particular installations and for installations located in certain parts of the country, such as the Northwest. Consequently, the level of savings that would be available from competitive acquisition of electric power would be less than is required to accommodate cost-effective demand-side

management and energy conservation opportunities by themselves, putting aside any consideration of infrastructure improvement.<sup>1</sup>

To effectively employ all, or a portion, of the savings that are available from competitive acquisition of power supplies for either energy conservation/demand-side management projects or infrastructure, the level of savings would need to be quantified for the group of bases receiving power purchased competitively. Additionally, the following factors would need to be recognized:

- the level of savings achieved for the group of bases may not be allocable to the individual bases in the group on other than an ad hoc basis;
- the most cost-effective use of achieved savings, whether used for energy conservation/demand-side management projects or infrastructure improvements will be independent of which bases generated the savings; and
- regulations will need to be implemented to permit the retention, distribution, and use of the savings.

Identifying the overall level of savings for the group of bases for which power is being competitively procured is a relatively straight-forward exercise, that is, the difference between prior fiscal year costs for power supply (before competitive acquisition) and costs for electric power under a competitive acquisition regime can be used. This represents the most convenient, if not strictly accurate, method to estimate savings and does not require the estimation of costs under contrafactual circumstances. Attributing the savings to individual bases, however, can be a more difficult

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<sup>1</sup>A general "rule of thumb" regarding the level of energy conservation investment is that one-year's electric power cost can be invested cost-effectively. In the case of military installations, however, it needs to be recognized that significant energy conservation investments have already been made and some opportunities that would otherwise be viewed as cost-effective are seen to either potentially interfere with fulfillment of the base's mission or employ a technology that is unproven and with which base personnel have no experience. These factors substantially reduce the overall level of remaining cost-effective energy conservation opportunities. While the cost of the remaining cost-effective opportunities cannot readily be estimated, it appears reasonable to assess that the two to three percent per year real dollar savings estimated to be achievable would not be sufficient to completely satisfy existing opportunities.

exercise. In the case where competitive supply is secured for a single military installation, that is, the load for the installation was not part of an aggregate load assembled by either the government or the successful bidder, any reduction in power supply costs could be appropriately viewed as emanating from that single installation. Under the alternative circumstance, i.e., savings obtained for an aggregate load, allocation of the savings to the individual bases may not be unambiguously calculable. Development of a reasonable and fair method of allocating savings will be necessary only to the extent that the individual bases will be permitted to retain a portion of achieved savings for either discretionary use or prespecified applications. If total savings are to be directed to infrastructure improvements and implementation of energy conservation/demand-side management (EC/DSM) projects, allocation of cost savings to individual bases is unnecessary for the program.<sup>2</sup>

Savings obtained from competitive power supply acquisition to be used for EC/DSM and infrastructure improvement projects should be directed to those projects providing the greatest benefit to the DOD. In general, that will mean that funds for EC/DSM projects will be directed toward those bases paying the most for electric power supplies on a per-kWh basis and those bases that do not have favorable EC/DSM agreements with a utility service provider. Infrastructure improvement funding would tend to be directed to older installations.

The approach applied to distribution of ECIP funds, which were first allocated to each of the service branches and then were allocated to individual installations on the basis of the energy and cost savings associated with proposed projects, is a reasonable balance between efficient use of funds and considerations of equity among the service branches. Greater efficiency of use of the funds would be achieved by distributing the funds based purely on the merits of individual projects without regard to the division of the funding pool among the service branches. The increase in efficiency obtained, however, is likely not to be significant. In the past, the relative scarcity of funds for project implementation, coupled with the method by which projects were selected for funding approval,

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<sup>2</sup>It is noted that estimated savings allocated to the individual bases may be desirable for other purposes, such as reporting.

resulted in only the most cost-effective projects being approved. Given the estimated magnitude of savings, the likelihood of the pool of available funds surpassing the pool of highly cost-effective projects seems to be small.

A separate question exists as to whether the individual bases should retain a portion of the achieved savings and, if so, how sizable that portion should be. The only reason to consider base-level savings retention is to provide an additional incentive for base-level personnel. If competitive acquisition is conducted at other than the base level, base-level savings retention is not purposeful.

If power supply procurement is conducted at the base level, retention of a portion of savings achieved would present an additional inducement to maximize savings. A program implemented to provide added base-level incentives to reduce energy supply costs through implementation of energy conservation projects permitted the bases to retain one-third of savings to be used for discretionary purposes. This program has generally been viewed as largely ineffective since the perception of base personnel has been that the discretionary funds would not be made available regardless of savings achieved.<sup>3</sup> For savings retention to be effective, regulations would need to be implemented to assure base personnel that the appropriate proportion of saved O&M funds generated by competitive power acquisition would, in fact, be available to the base for discretionary use. The one-third proportion of saved funds envisioned to have been available to bases that achieved savings generated through energy conservation is assessed to be reasonable, representing a significant, but not a majority, of the realized savings.

### **7.3 PRIVATIZATION**

All service branches are committed to privatizing on-base utility systems where privatization is determined to provide net total benefits to the DOD. The criteria for assessing the ratio of benefits to costs differ among the service branches. The issue of privatization of on-base electrical systems

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<sup>3</sup>This assessment is based on discussions with both base-level and service branch personnel. No formal documentation addressing this issue is presently available.

relates to retail open access in two ways: (1) the availability of future access to the grid, and (2) the implications for future costs.

When on-base electric utility system privatization is conducted, one of two general approaches is possible. The first approach entails transferring the ownership of the on-base system to the serving utility and receiving service under a rate applicable to lower voltage customers. Transformation losses are borne by the serving utility, which is also responsible for operation and maintenance of the on-base distribution system. The second method entails transfer of ownership with the base continuing to be billed at high-voltage rates and metered on the high side of transformation. Fees are paid to the utility of operation and maintenance of the on-base distribution system. The latter arrangement is preferred and while transformation losses are incurred by the base under the second arrangement, the base continues to benefit from the high-voltage discount embodied in the utility's tariffs as well as from the diversity of loads on the base. The diversity benefit is lost if the base takes power at multiple metering points located on the low-voltage side of transformation.

Early in the restructuring debate in California, and mirrored to some extent in several other states, was the issue of which groups of customers would obtain open access privileges first and which groups would be eligible for open access purchases at later dates. In California, the initial rules identified large, high-voltage customers as the first set to benefit from retail open access, with other customer groups to be phased-in over several years. That initial plan was revised and all electric power customers in California will have the benefits of customer choice beginning April 1, 1998. Other states considering a phased implementation of customer choice are generally allowing a fixed percentage from each customer class to participate initially, with the percentage increasing over time.

As noted previously in this report, most states have not articulated restructuring plans. To ensure access to the power grid, the privatization agreement entered into between the installation and the serving utility should anticipate potential restrictions and incorporate language that allows the

base maximum flexibility in obtaining access to the grid following the implementation of restructuring.

From a cost perspective, it needs to be recognized that some degree of cost shifting is likely to occur following restructuring. In particular, any interclass subsidies currently in existence will be eliminated under competitive conditions. Historically, the tariffs in place for many utilities include embedded subsidies from the industrial customer class to the residential and small commercial customer classes. To the extent that such subsidies exist currently and will be eliminated by market forces following restructuring, the base will benefit from retaining high-voltage service following privatization. Elimination of interclass subsidies can be anticipated to result in disproportionately large cost reductions for large, high-voltage customers relative to residential and small commercial customers. Consequently, bases should retain the high-voltage character of service, that is, continue to be metered on the high side of transformation following restructuring. It is noted that this approach is consistent with the predominant methods currently relied upon in privatization efforts.

#### **7.4 FEDERAL POWER MARKETING ADMINISTRATIONS**

Numerous military bases are provided some or all of their power requirements by two federal power marketing administrations: the Western Area Power Administration (Western) and the Southwestern Power Administration (SWAPA).

Table 7.1 shows mWh used, costs incurred, and estimated savings achieved for the DOD related to PMA purchases. The DOD purchases 1.1 million mWh from Western and SWAPA at an annual cost of approximately \$25.5 million. Savings resulting from these purchases are \$42.1 million per year. Under restructuring, it is likely that the level of savings associated with the use of PMA power by the DOD will decline significantly, though substantial uncertainty exists regarding the timing and level of lost savings.

**Table 7.1**  
**DOD's Purchases of PMA Energy**  
**and Resulting Power Supply Cost Savings**

	Energy (MWh)	Cost (\$,000)	Savings (\$,000)
WAPA	-		
Central Valley Project	609,993	\$18,474	\$23,184
Loveland Area Projects	56,478	876	800
Parker-Davis Project	163,560	1,819	12,112
Pick-Sloan MB Program	17,513	236	218
Salt Lake City Integrated Projects	79,891	1,404	1,541
Central Arizona Project	5,975	158	N/A
SWAPA	<u>174,032</u>	<u>2,504</u>	<u>4,242</u>
TOTAL	1,107,442	\$25,471	\$42,097

The erosion of PMA savings that is currently anticipated results principally from changes in the California regulatory environment that becomes effective April 1, 1998. Three factors will affect the level of savings historically achieved by the DOD:

- the imposition of competition transition charges on some of the Western power deliveries;
- the expected reduction in the amount of Western Central Valley Project (CVP) power marketed by Western; and
- the expected increase in wheeling charges for delivery of CVP power.

Military installations in Northern California receive Western power deliveries under terms and conditions specified in an interconnection agreement between Western and the Pacific Gas and Electric Company (PG&E). This agreement, referred to as Contract No. 2948-A, expires in 2004.



The contract fully specifies the rights and obligations of both parties. Under 2948-A, PG&E is obligated to wheel Western power to Western's customers at agreed-upon wheeling rates.

Most of the Western CVP power allocated to the service branches and assigned to individual installations has been at those installations for several years and will be exempt from competition transition charges (CTCs). In other cases, Western power made available as a result of base closings and power transferred into PG&E's service area from other service areas, e.g., from the Sacramento Municipal Utility District, may be subject to CTCs. No estimate has been made of losses resulting from imposition of CTCs.

PG&E has informed Western that beginning in 2001, it will no longer transmit Western power under 2948-A and Western will need to rely on the ISO for transmission of power. If this situation eventuates, the likelihood of which is unclear given PG&E's obligations under 2948-A, wheeling rates for Western power will increase by approximately \$0.50/kW-month, resulting in foregone savings of approximately \$720,000 per year.

Of greatest impact will be an expected reduction in Western power allocations of approximately 40 percent in 2004, when Contract No. 2948-A expires. This reduction, tentatively suggested by Western, could reduce DOD's annual savings by about \$9 million.

It is recommended that DOD work closely with Western's Sierra Nevada Regional Office to monitor events and to influence, to the maximum extent possible, retention of Western CVP savings.

## **7.5 DATA BASE REQUIREMENTS**

The move to a competitive environment that would permit DOD to secure electric power for each of its facilities in the U.S. competitively will require a substantial modification to the current system of tracking electricity consumption at DOD installations. In a competitive market, suppliers would prefer to develop bid proposals based on information made available regarding detailed load

characteristics of the installations. Moreover, detailed data would also be vital to permit suppliers to consider submitting proposals for the aggregated loads of multiple sites. The tracking system that is recommended in this report requires developing a data base to track energy consumption, power costs, and load characteristics at each DOD facility in advance of the time when requests for proposals are developed.

For each DOD facility, the minimum data that is likely to be required can be broken down into five categories. Some of these categories include data that is unlikely to change very often, such as the identity of the installation's current suppliers. Other data would change more frequently, perhaps once a month, such as cost and billing determinants. The categories that appear most important are as follows:

- Identity of the Facility
- Points of Contact
- Usage and Load
- Cost
- Suppliers

Below, the data that should be assembled for each of these categories is explained in more detail. This is not intended to be an exhaustive or complete list of the data that should be assembled, only the minimum data that appears vital for use in a competitive electric power procurement process. It is important to note that absent the detail embodied in the data described below, the government would still receive responsible bids in response to competitive solicitations made for electric power supplies. The information contained in the data items addressed below, however, serves to reduce the risk and uncertainty associated with the preparation of proposals. Reduction of risk and uncertainty faced by prospective bidders will be manifested in lower bid prices than would otherwise be the case.

The first category, the identity of the installation, would encompass data on each specific site. This would include information regarding the name of the site, the service branch, the command, the number of military and non-military personnel employed at the installation, and the installation's location. The second category of information (points of contact) includes a contact at each installation who would be charged with responsibility for assembling data, as well as contacts for the relevant contracting officer and a representative from the Base Civil Engineers (BCE) Office. Information in this category would identify the contacts and provide address, phone, fax, and e-mail information. Information assembled in categories one and two are relatively static, changing only infrequently. Thus, once assembled, the maintenance of this part of the data base would be minimal.

The third category is perhaps the most crucial for enabling alternative suppliers to prepare a response to a solicitation. This would identify the meters and/or accounts under which service is rendered to each installation, indicate the monthly (or other period) billing determinants for the installation, i.e., demand and energy readings for each meter that is read at the installation, identify the voltage at which each power is delivered, and include monthly, hourly (or half-hourly) load data for the site as a whole. These last data usually can be provided by the principal utility providing retail service in a spreadsheet format on a diskette.

The fourth category is the monthly cost of power at the site. To the extent that the installation's electric bill is different for each meter, it would be necessary to track this information by meter. (Often, separate meters are installed for the convenience of the utility and are simply used to totalize the site's energy and load data.) The data in this section should separately identify facility charges, i.e., charges for specific equipment necessary to provide service such as transformers that enable a facility to take service at a higher voltage under a more favorable rate. The cost of such site-specific equipment is not recovered in electric rates, but in separate charges. The data in categories three and four would involve the most maintenance and effort. Information would have to be entered for each facility monthly with reasonable care taken to ensure accuracy.

The fifth category would include data about each supplier providing electric power to the installation. The supplier would be identified, and, to the extent separate meters are served by separate suppliers, these would also be noted. In addition, the tariff and contract under which service is rendered would be identified. It would also be useful to include relevant features of the service contract, such as the date the contract was signed, its termination date, and any information regarding termination provisions. The information in this category is relatively static, and is unlikely to change very frequently. Accordingly, it would be subject to much less maintenance than the prior two classes of data. Table 7.2 summarizes the data categories and the types of data that would be assembled in each.

## **7.6 ANCILLARY SERVICES**

Ancillary services is a term that refers to network services that are required to accommodate open access to the transmission grid. Ancillary services include:<sup>4</sup>

- Scheduling, system control, and dispatch
- Power regulation
- Spinning reserves
- Supplementary reserves
- Energy balancing
- Loss compensation
- Voltage support and reactive power

Together, ancillary costs are estimated to be approximately \$0.0049/kWh on a national average basis. There can be, however, substantial regional differences in ancillary service costs. A well-defined market for ancillary services has not yet emerged (and may never emerge), and several of the ancillary services are monopoly services that can only be provided by the Independent System

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<sup>4</sup>Peter Fox-Penner, Electric Utility Restructuring: A Guide to the Competitive Era, Public Utilities Reports, Vienna, Virginia, 1997, pp. 204-5.

**Table 7.2**  
**Suggested Data Base Requirements**

- Basic Identifying Information
  - Service Branch
  - Command
  - Location
  - Base/Housing/Commissary/Other
- Contact Information (data collection, contracting, BCE, command)
  - Name
  - Address
  - Position
  - Telephone
- Energy and Load Data
  - Meter/Account Number
  - kWh per Month
  - kW per Month
  - Sample Load Curve Data (Hourly)
- Cost of Electricity
  - Total Cost by Meter/Account per Month
  - Separate Identification of Facility Charges
  - Average Cost per kWh (Net of Facility Charges)
- Suppliers
  - Identification of Supplier(s) by Account/Meter
  - Service Voltage
  - Tariff Name (e.g., LGS-P)
  - Contract
    - ▶ Date Signed
    - ▶ Termination Date
    - ▶ Contract Number

Operator (ISO). For example, scheduling/system control/dispatch is an ISO function. Other ancillary services may be provided, at least in part, by entities other than the ISO, such as energy balancing.<sup>5</sup>

In the context of a competitive acquisition of power in the short-run, there appears to be little to gain from unbundling ancillary services from the provision of power supply. On a theoretical level, it is possible to secure a more favorable price through unbundling. From a practical perspective, the unbundling of ancillary services places an additional burden on base personnel to define the ancillary services required. Further, it adds a layer of complexity to the acquisition process that is unlikely to result in significant net savings, if any.

To the extent that reduced costs could be realized through competitive acquisition of ancillary services, it would be expected that power supply offerors would competitively acquire those ancillary services for which a market has developed. Consequently, the bulk, if not all, of the benefit associated with the development of competitive markets for at least some ancillary services would flow through to the DOD without the need to unbundle.

## **7.7 CONTRACTING FOR DEMAND-SIDE MANAGEMENT PROGRAMS**

The National Energy Policy Act of 1992 and Executive Order 12902 require military installations to reduce per square-foot energy consumption by 20 percent of the 1985 baseline by the year 2000 and 30 percent of the 1985 baseline by 2005, respectively. To help achieve these reductions, the DOD has relied upon energy conservation/demand-side management (EC/DSM) agreements with utility service providers along with other contract vehicles (such as Energy Savings Performance Contracts) and use of federal funds to implement energy conservation initiatives. In the context of electric industry deregulation, however, the costs and benefits of participating in such contracts have begun to change -- for both the Department of Defense and the individual utilities

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<sup>5</sup>Energy imbalances occur when the amount of energy contracted for over the month deviates from the energy actually delivered. Periodic adjustments are therefore required to ensure that the buyer, seller, and the provider of any excess power are made whole.

involved. This section will address the potential considerations associated with selecting the appropriate contracting mechanism for future demand-side management programs and also address the implications of bundling EC/DSM services and power supplies in a competitive acquisition.

Presently, the basic characteristics of EC/DSM agreements with franchised utilities include:

1. *Sole-source procurement.* Legislative and regulatory authority allows the bases to enter into EC/DSM agreements with its regulated utility service provider without seeking competitive bids.

2. *Up-front utility funding.* The utility funds all costs associated with the identification, installation, and monitoring of energy conservation opportunities. This arrangement relieves the base of the requirement to secure funds for implementation, thus significantly expediting the implementation process. MILCON projects, for example, require a direct capital project appropriation, and years can pass between the time that a suitable project is identified and the time that funding becomes available.

3. *Repayment to the utility from base O&M funds.* The implementation of energy- and demand-saving measures at the base will result in reductions to the cost of power procurement. Repayment to the utility (at an agreed-upon rate of interest) can be structured to ensure that utility service cost reductions from conservation measures are adequate to offset the required repayments to the utility. This arrangement relieves the base of the need to secure funding specifically targeted to energy conservation and demand-side management measures. Such funding, through programs such as ECIP and FEMP, is of limited availability, and is typically granted for projects with extremely short payback periods (usually less than four years). DOD regulations, however, require installations to implement all economic EC/DSM projects with expected payback periods of ten years or less.

4. *Provision of cost-free services.* EC/DSM agreements are structured to provide the base with maximum access to cost-free services from the utility, i.e., services made available to other

similar utility customers. At a minimum, the base would have access to standard rebates offered by the utility and cost-free services such as audits that are often made available to other utility customers.

Under retail open access and competition for the provision of electric power supplies to the DOD, EC/DSM contracts will continue to be a viable option for bases since the utilities that have historically served the base load will continue to provide regulated transmission and distribution services. Utilities are likely, however, to become less interested in providing EC/DSM services as these activities are shifted to unregulated subsidiaries. This circumstance has become increasingly common over the past few years, and it is expected that the number of utilities offering energy conservation and demand-side management services through the regulated entity will continue to decline. Once the provision of energy conservation and demand-side management services is shifted to an unregulated subsidiary, procurement regulations preclude EC/DSM sole-source contracting.

To the extent that energy conservation/demand-side management services need to be competitively procured, the question arises as to whether these services should be procured as part of the acquisition of electric power supplies, that is, whether the solicitation for supply of electric power should include the provision of energy conservation and demand-side management services or whether EC/DSM services should be procured through a separate solicitation.

Under a bundled solicitation, with all other selection criteria being equal, award would be made to the firm offering the least joint cost for the set of services requested. This cost, however, can only be equal to or greater than the lowest individual costs if such services were procured separately, assuming no significant synergies or economies of scope. There does not appear to be any substantial evidence that such synergies or economies of scope exist. Separate solicitations would assure the lowest cost for each of the items (i.e., power supply and EC/DSM services) rather than the lowest joint cost under a bundled arrangement, which may exceed the sum of the lowest individual costs.



Bundling services may also have the unintended effect of limiting competition. Although there is some overlap, there are generally different sets of firms that compete in the power supply and ESCO markets. Restricting the opportunity to bid on EC/DSM services to those firms which are capable of meeting the often substantial power supply requirements of military installations raises a significant possibility that the price paid for the EC/DSM portion of the contract will be substantially higher than that which could be obtained in a separate procurement.

Another difficulty with bundling power supply and EC/DSM services within one solicitation is the mismatch between the optimal contract duration periods for EC/DSM and power supply contracts. Due to the price fluctuations inherent in the gas and electricity markets, particularly in an era of deregulation, it is generally not desirable to structure contracts for power purchase for longer than about three or four years. This allows the base increased flexibility in obtaining the lowest price available. Relatively short contract periods are particularly desirable during the early years of open access implementation to allow the DOD to avail itself of the benefits of market maturity. Demand-side management programs, however, generally require a much longer period of time (five to ten years) in which to recoup savings. Because of DOD's preference to pay for EC/DSM out of expected or realized savings, instead of as an up-front capital expenditure as noted earlier, a three- or four-year contract period may be insufficient to effectively achieve this goal.

Finally, there is an inherent conflict between the motivations of a company whose goals are to sell energy for profit and, at the same time, to provide a means for a customer to reduce energy purchases. Under regulation, utilities were often forced to engage in demand-side management programs because of incentives offered and sanctions imposed by state regulators to compel their participation. While some utilities may continue to offer demand-side management programs as a means of customer retention, many utilities have already reduced their commitment to EC/DSM and may in the future eliminate these programs entirely. Bundling power supply and EC/DSM services in a non-regulatory environment increases the risk to the base that it will not receive the same level of EC/DSM benefits that it would under separate procurements that avoid the inherent conflict between the incentives to sell power and reduce power sales.

In summary, there are substantial pricing risks and other shortcomings of bundling power supply and EC/DSM services into a single solicitation. The presence of significant synergies or economies of scope appear to be sufficiently weak so as to make a bundled solicitation undesirable.

## **7.8 RISK REDUCTION STRATEGIES USED BY UTILITIES**

During the next several years, as the price for power changes to one driven by market forces rather than cost, power providers will employ hedging strategies to guard against short-term volatility in the prices that they pay for purchased power. Suppliers could also employ hedging to lock-in long-term prices. Although futures contracts for electricity are traded on the New York Mercantile Exchange (NYMEX), this is a new market and its use by utilities for risk reduction has not fully matured. Currently, NYMEX only offers futures trading on electric power at the California-Oregon border (COB) and at the Palo Verde nuclear generating station switchyard. As this market matures, other locations will be defined for trading.

To understand how hedging for electricity would work, we present a brief discussion of how hedging is now employed by gas distribution utilities and by various fuel suppliers. As the description below will show, the use of hedging in gas markets is used to limit exposure to price volatility, particularly sharp increases in price.

Local distribution utilities (LDCs) use hedging strategies to reduce the volatility of their gas supply costs. Although gas utilities cannot profit by this arrangement because their prices to ultimate consumers are regulated, state regulatory commissions have been concerned with reducing the volatility of gas prices to minimize adverse effects on consumers.

Typically, LDCs contract with suppliers in the Gulf of Mexico or other supply areas for gas under one or a mix of alternative pricing arrangements. The vast majority of these contracts link the price of gas to an agreed-upon monthly index of gas prices. During periods of extremely cold weather, however, this arrangement could result in gas prices that could increase significantly in a relatively short time frame. This is the price risk which hedging is used to reduce.

One strategy would be for the LDC to lock in the future price of a portion of its required gas supplies by purchasing a futures contract. To assure the price of a fixed quantity of gas in December 1998, for example, the LDC would purchase a contract that called for the delivery of that gas in December at a fixed price that is set today. This would eliminate future volatility in price. If gas prices in December 1998 were above today's contract price, the futures contract would give the purchaser the right to buy gas at today's market price for December 1998 deliveries. This strategy would not protect the LDC against the risk of the actual price in December 1998 being lower than the futures price that is set today, however.

Normally, there would be no need for end users to insulate themselves from declines in the price of gas or electricity. If, for whatever reason, a supplier was required to achieve certain minimum price levels from the sale of gas or electricity, one financial instrument that could make that possible would be the analog of the put option that is used in securities' markets. In those markets, a put option gives the purchaser of the option the right to sell a security within a specified time period at a given price. In energy markets, an analogous instrument gives a supplier the right to sell gas or electricity at a stated price, even when the market price is lower. This would therefore insulate the supplier against declines in the market price of energy.

It should be noted that electric utilities may be restricted from participating in futures markets for electric power. For example, California presently precludes the investor-owned utilities from trading electricity futures. Risk reduction strategies related to electric power employed by these utilities, therefore, focus on the natural gas market.

## **7.9 CONTROL AREA CONSIDERATIONS**

In soliciting power to serve various DOD facilities across the country, one issue that arises is the extent to which any solicitation should seek to combine loads that are located in different utility control areas. In order to assess the effects this is likely to have, it is necessary to understand what additional costs, if any, combining loads in different control areas is likely to entail.

First, and depending upon the transmission arrangements in adjacent control areas, transmission costs are likely to be higher when power deliveries are made across control area boundaries. Consider as an example the situation that will prevail in California when that state's open transmission access program becomes effective in 1998. The entire state will become a single control area with a number of non-pancaked transmission rates available for service within the state. While transmission service, excluding congestion charges, will be at a single rate for deliveries within the control area (the State of California), that rate will depend upon the location where power is withdrawn from the grid. If the load of a DOD facility located in Nevada is served from a source in California, transmission charges would be cumulative and equal to the sum of the California ISO rate plus the transmission rate in Nevada. Although transmission rates are likely to range from 3 to 5 mills/kWh, since savings are not expected to be very large during the short-run, this may be enough to make such a transaction uneconomic.

Second, the cost of ancillary services for combining loads in multiple control areas could be higher. In particular, the fixed costs associated with coordinating and scheduling, which would be small on a unit basis if undertaken by the California ISO, would increase if additional personnel associated with an out-of-control-area utility were to become involved.

As a practical matter, the opportunity to issue solicitations covering multiple control areas is not likely to present itself for several years, since the states are implementing retail open access on state-specific schedules. Some states implementing open access, such as California and New York, have established state-wide ISOs, which define the control area. Other states, such as Pennsylvania, are within regions where multi-state ISOs have been established, such as the PJM. Consequently, the control area issue as it affects competitive acquisition is largely irrelevant to DOD procurement decisions, particularly over the next few years.

In the future, solicitations covering multiple control areas are feasible, with the only disadvantage being the restricted ability of offerors to be competitive on price where delivered power must cross control area boundaries. (This assumes that offerors would not be required to bid on the

full, aggregated DOD load but rather could bid on loads within the distinct control areas separately.) This circumstance would be handled through the bid evaluation process given that the solicitation would need to specify the delivery point for the power. In short, control area considerations should be transparent to the DOD in the competitive acquisition process and, for the short term, are largely moot.

## **APPENDIX A**

### **USAGE AND COST BASELINE**

**APPENDIX A-1.1**

**USAGE AND COST**

**BASELINE -- MAIN BASE**

**17-STATE SUBGROUP**

**(SORTED BY SERVICE)**

DOD Electric Power Usage and Cost Baseline

Group of 17 - Main Base Only

		Baseline Total Costs													
FY 1996															
MWh		\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005			
Army	AZ	NA													
		16,178	707,822	43.75	680,064	680,064	666,185	666,185	652,307	652,307	652,307	652,307			
Army	AZ	NA													
		107,710	7,425,621	68.94	7,134,420	7,134,420	6,988,820	6,988,820	6,843,219	6,843,219	6,843,219	6,843,219			
		123,888	8,133,443	65.65	7,973,964	7,814,484	7,655,005	7,655,005	7,495,526	7,495,526	7,495,526	7,495,526			
Army	CA	NA													
		20,366	1,167,186	57.31	1,151,828	1,151,828	1,105,755	1,105,755	1,090,397	1,090,397	1,075,040	1,044,324			
Army	CA	NA													
		12,914	1,476,389	114.32	1,456,963	1,456,963	1,398,684	1,398,684	1,379,258	1,379,258	1,359,892	1,320,980			
Army	CA	NA													
		100,266	8,955,336	89.32	8,955,336	8,837,503	8,484,003	8,484,003	8,366,169	8,366,169	8,248,336	8,012,669			
		133,546	11,598,911	86.85	11,446,294	11,446,294	10,988,442	10,988,442	10,835,825	10,835,825	10,683,208	10,377,973			
Army	IL	NA													
		8,368	501,847	59.97	490,695	501,847	501,847	501,947	501,847	501,847	501,847	490,695			
Army	IL	NA													
		4,897	204,845	41.83	200,293	204,845	204,845	204,845	204,845	204,845	204,845	200,293			
Army	IL	NA													
		81,114	3,981,075	49.08	3,892,607	3,981,075	3,981,075	3,981,075	3,981,075	3,981,075	3,981,075	3,892,607			
		94,379	4,687,767	49.67	4,583,594	4,687,767	4,687,767	4,687,767	4,687,767	4,687,767	4,687,767	4,583,594			
Army	IN	NA													
		3,217	119,325	37.09	116,939	114,552	114,552	112,166	112,166	109,779	109,779	107,393			
Army	MA	NA													
		24,917	1,483,317	59.53	1,441,533	1,441,533	1,399,750	1,378,858	1,357,966	1,357,966	1,337,074	1,337,074			
Army	MD	NA													
		140,222	5,672,013	40.45	5,494,763	5,494,763	5,406,137	5,406,137	5,406,137	5,317,512	5,228,887	5,140,262			
Army	MD	NA													
		263,402	14,023,828	53.24	13,585,583	13,585,583	13,366,461	13,366,461	13,366,461	13,147,339	12,928,216	12,709,094			
Army	MD	NA													
		421,883	20,537,233	48.68	19,895,444	19,895,444	19,895,444	19,574,550	19,574,550	19,253,656	18,932,762	18,611,867			
		825,507	40,233,074	48.74	38,975,790	38,975,790	38,347,149	38,347,149	38,347,149	37,718,507	37,089,865	36,461,223			
Army	MI	NA													
		39,109	2,390,404	61.12	2,342,596	2,294,788	2,294,788	2,246,980	2,246,980	2,199,172	2,199,172	2,151,364			
Army	MI	NA													
		27,356	1,771,794	64.77	1,736,358	1,700,922	1,700,922	1,665,486	1,665,486	1,630,050	1,630,050	1,594,615			
		66,465	4,162,198	62.62	4,078,954	3,995,710	3,995,710	3,912,466	3,912,466	3,829,222	3,829,222	3,745,978			
Army	NH	NA													
		8,934	620,664	69.47	603,181	603,181	594,439	576,955	568,214	568,214	559,472	559,472			
Army	NJ	NA													
		87,995	7,436,173	84.51	7,203,793	7,203,793	7,087,602	7,087,602	7,087,602	6,971,412	6,855,222	6,739,032			
Army	NJ	NA													
		51,393	4,099,100	79.76	3,971,003	3,971,003	3,906,955	3,906,955	3,906,955	3,842,906	3,778,858	3,714,809			
Army	NJ	NA													
		97,036	7,323,895	75.48	7,095,023	7,095,023	6,980,587	6,980,587	6,980,587	6,866,152	6,751,716	6,637,280			
Army	NJ	NA													
		24,675	2,041,778	82.75	1,977,972	1,977,972	1,946,070	1,946,070	1,946,070	1,914,167	1,882,264	1,850,361			
		261,099	20,900,946	80.05	20,247,791	20,247,791	19,921,214	19,921,214	19,921,214	19,594,637	19,268,060	18,941,482			
Army	NV	NA													
		10,558	524,579	49.69	524,579	517,677	496,970	496,970	490,067	490,067	483,165	469,360			
Army	NY	NA													
		114,109	9,417,847	82.53	9,243,442	9,069,038	8,894,633	8,894,633	8,720,229	8,720,229	8,371,420	8,371,420			



## DOD Electric Power Usage and Cost Baseline

Group of 17 - Main Base Only

	FY 1996	Baseline Total Costs										
	MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005
Army NY NA WATERVLIET Ars	44,140	3,504,816	79.40	3,439,912	3,375,008	3,375,008	3,375,008	3,310,104	3,245,200	3,245,200	3,115,392	3,115,392
Army NY NA U S MILITARY ACADEMY	85,636	5,271,259	61.55	5,173,643	5,076,027	5,076,027	5,076,027	4,978,411	4,880,795	4,880,795	4,685,564	4,685,564
Army NY NA FT HAMILTON	24,598	1,433,115	58.26	1,406,576	1,380,037	1,380,037	1,380,037	1,353,498	1,326,958	1,326,958	1,273,880	1,273,880
	<b>279,041</b>	<b>20,151,616</b>	<b>72.22</b>	<b>19,788,152</b>	<b>19,417,786</b>	<b>19,417,786</b>	<b>19,397,079</b>	<b>19,033,616</b>	<b>18,663,250</b>	<b>18,663,250</b>	<b>17,929,420</b>	<b>17,915,615</b>
Army PA NA KELLY SUP FAC	4,463	318,812	71.43	308,849	308,849	308,849	303,868	303,868	303,868	298,886	293,905	288,923
Army PA NA SCRANTON AAP	34,400	1,876,157	54.54	1,817,527	1,817,527	1,817,527	1,788,212	1,788,212	1,788,212	1,758,897	1,729,582	1,700,267
Army PA NA CARLISLE BARRACKS	21,435	1,440,437	67.20	1,395,423	1,395,423	1,395,423	1,372,917	1,372,917	1,372,917	1,350,410	1,327,903	1,305,396
Army PA NA NEW CUMBERLAND AD	47,040	2,848,942	60.56	2,759,913	2,759,913	2,759,913	2,715,398	2,715,398	2,715,398	2,670,883	2,626,368	2,581,854
Army PA NA TOBYHANNA AD	40,554	2,420,454	59.68	2,344,815	2,344,815	2,344,815	2,306,995	2,306,995	2,306,995	2,269,176	2,231,356	2,193,536
Army PA NA PHILADELPHIA DCS	22,795	1,700,000	74.58	1,646,875	1,646,875	1,646,875	1,620,313	1,620,313	1,620,313	1,593,750	1,567,188	1,540,625
Army PA NA LETTER KENNY AD	57,658	2,899,192	49.24	2,750,467	2,750,467	2,750,467	2,706,105	2,706,105	2,706,105	2,661,743	2,617,380	2,573,018
	<b>228,345</b>	<b>13,443,994</b>	<b>58.88</b>	<b>13,023,869</b>	<b>13,023,869</b>	<b>13,023,869</b>	<b>12,813,807</b>	<b>12,813,807</b>	<b>12,813,807</b>	<b>12,603,744</b>	<b>12,393,682</b>	<b>12,183,620</b>
Army WA NA FT LEWIS	<b>236,235</b>	<b>7,710,716</b>	<b>32.64</b>	<b>8,636,002</b>	<b>8,944,431</b>	<b>9,561,288</b>	<b>9,561,288</b>	<b>9,561,288</b>	<b>9,561,288</b>	<b>9,869,716</b>	<b>9,561,288</b>	<b>9,561,288</b>
	<b>2,285,573</b>	<b>133,245,971</b>		<b>131,068,681</b>	<b>130,713,189</b>	<b>131,300,413</b>	<b>129,467,460</b>	<b>128,988,732</b>	<b>128,276,636</b>	<b>127,334,153</b>	<b>124,944,362</b>	<b>123,270,239</b>
Navy AZ N66080 NSPASURSTA MARICOPA TOTAL	<b>1,152</b>	<b>89,168</b>	<b>77.40</b>	<b>87,420</b>	<b>85,671</b>	<b>85,671</b>	<b>83,923</b>	<b>83,923</b>	<b>82,174</b>	<b>82,174</b>	<b>82,174</b>	<b>82,174</b>
Navy CA P63406 NAVSUBASE SAN DIEGO TOTAL	50,011	3,457,214	69.13	3,457,214	3,411,724	3,411,724	3,275,255	3,275,255	3,229,766	3,229,766	3,184,276	3,093,297
Navy CA P62583 NCBC PORT HUENEME MB+SHIP	33,636	2,326,974	69.18	2,326,974	2,296,356	2,296,356	2,204,502	2,204,502	2,173,884	2,173,884	2,143,266	2,082,029
Navy CA N62474 NFEC SAN BRUNO TOTAL	1,716	182,096	106.12	182,096	179,700	179,700	172,512	172,512	170,116	170,116	167,720	162,928
Navy CA N00948 FAWTC SAN DIEGO TOTAL	11,587	894,527	76.54	894,527	882,757	882,757	847,447	847,447	835,677	835,677	823,906	800,366
Navy CA N66079 NSPASURSTA CHULA VISTA TOTAL	198	14,981	75.66	14,981	14,784	14,784	14,193	14,193	13,995	13,995	13,798	13,404
Navy CA D62271 NPGS MONTEREY MB	16,947	1,257,519	74.20	1,257,519	1,240,973	1,240,973	1,191,334	1,191,334	1,174,787	1,174,787	1,158,241	1,125,149
Navy CA D60259 NAS MIRAMAR MB	44,246	3,173,589	71.73	3,173,589	3,131,831	3,131,831	3,006,558	3,006,558	2,964,800	2,964,800	2,923,043	2,839,527
Navy CA D60042 NAF EL CENTRO MB	4,919	360,988	73.39	360,988	356,238	356,238	341,989	341,989	337,239	337,239	332,489	322,989
Navy CA N65885 NAF ALAMEDA TOTAL	28,244	2,944,948	104.27	2,944,948	2,906,199	2,906,199	2,789,951	2,789,951	2,751,201	2,751,201	2,712,452	2,634,953
Navy CA N91285 NIROP SUNNYVALE TOTAL	28,383	1,702,670	59.99	1,702,670	1,680,266	1,680,266	1,613,056	1,613,056	1,590,652	1,590,652	1,568,249	1,523,442
Navy CA D60530 NWC CHINA LAKE MB	118,787	7,178,257	60.43	7,178,257	7,083,806	7,083,806	6,800,454	6,800,454	6,706,003	6,706,003	6,611,552	6,422,651
Navy CA D63126 PMTC POINT MUGU MB	64,556	4,163,184	64.49	4,163,184	4,108,405	4,108,405	3,944,069	3,944,069	3,889,290	3,889,290	3,834,512	3,724,954
Navy CA N63406 NSB SAN DIEGO TOTAL	10,893	749,179	68.78	749,179	739,321	739,321	709,749	709,749	699,891	699,891	690,033	670,318
Navy CA N66095 NH LEWORE TOTAL	2,797	109,014	38.98	109,014	107,580	107,580	103,276	103,276	101,842	101,842	100,408	97,539
Navy CA D60701 NWS SEAL BEACH MB	20,496	990,609	48.33	990,609	977,575	977,575	938,472	938,472	925,437	925,437	912,403	886,334
Navy CA N65918 SIMA SAN DIEGO TOTAL	5,764	308,437	53.51	308,437	304,379	304,379	292,203	292,203	288,145	288,145	284,087	275,970

**Group of 17 - Main Base Only**

### Baseline Total Costs

### Baseline Total Costs

		FY 1996	Baseline Total Costs												
			MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	
Navy	IL	N68330	NRRC GREAT LAKES TOTAL	4,008	288,916	72.08	282,496	288,916	288,916	288,916	288,916	288,916	288,916	288,916	282,496
Navy	IL	N00211	NRMC GREAT LAKES TOTAL	15,579	706,502	45.35	690,802	706,502	706,502	706,502	706,502	706,502	706,502	706,502	690,802
Navy	IL	N68326	NRDC GREAT LAKES TOTAL	1,487	67,452	45.36	65,953	67,452	67,452	67,452	67,452	67,452	67,452	67,452	65,953
				109,272	5,463,396	50.00	5,341,987	5,463,396	5,463,396	5,463,396	5,463,396	5,463,396	5,463,396	5,463,396	5,341,987
Navy	IN	D00164	NWSC CRANE MB	80,978	2,958,118	36.53	2,898,956	2,839,793	2,839,793	2,780,631	2,780,631	2,721,469	2,721,469	2,662,306	
Navy	MA	N93880	NWIRP BEDFORD TOTAL	6,372	523,060	82.09	508,326	508,326	500,959	483,592	486,225	478,858	471,491	471,491	
Navy	MA	N91041	NIROP PITTSFIELD TOTAL	34,651	1,905,772	55.00	1,852,088	1,852,088	1,825,246	1,798,405	1,771,563	1,744,721	1,717,879	1,717,879	
				41,023	2,428,832	59.21	2,360,414	2,360,414	2,326,205	2,291,996	2,257,787	2,223,579	2,189,370	2,189,370	
Navy	MD	N00167	NSRDC BETHESDA TOTAL	30,329	2,277,151	75.08	2,205,990	2,205,990	2,170,410	2,170,410	2,170,410	2,134,829	2,099,249	2,063,668	
Navy	MD	N35328	NRTF ANNAPOLIS TOTAL	6,923	436,088	62.99	422,460	422,460	415,646	415,646	415,646	408,833	402,019	395,205	
Navy	MD	N63822	EMCAC ANNAPOLIS TOTAL	1,134	115,612	101.95	111,999	111,999	111,999	110,193	110,193	108,386	106,580	104,773	
Navy	MD	D61533	NSRDC ANNAPOLIS MB	18,485	1,156,329	62.55	1,120,194	1,120,194	1,102,126	1,102,126	1,102,126	1,084,058	1,065,991	1,047,923	
Navy	MD	N00788	NCS CHELTENHAM TOTAL	5,720	343,976	60.14	333,227	333,227	333,227	327,852	327,852	322,478	317,103	311,728	
Navy	MD	N62640	NSEOD INDIAN HEAD TOTAL	1,792	109,890	61.32	106,456	106,456	104,739	104,739	104,739	103,022	101,305	99,588	
Navy	MD	N00162	NRMC ANNAPOLIS TOTAL	1,486	90,012	60.57	87,199	87,199	85,793	85,793	85,793	84,386	82,980	81,573	
Navy	MD	N66843	NRC SOLOMONS ISLAND TOTAL	4,407	258,034	58.55	249,970	249,970	245,939	245,939	245,939	241,907	237,875	233,843	
Navy	MD	N0464A	NEODTC INDIAN HEAD TOTAL	17,349	1,043,920	60.17	1,011,298	1,011,298	994,986	994,986	994,986	978,675	962,364	946,052	
Navy	MD	N00168	NMC BETHESDA TOTAL	79,258	4,354,464	54.94	4,218,387	4,218,387	4,150,349	4,150,349	4,150,349	4,082,310	4,014,272	3,946,233	
Navy	MD	D00421	NATC PATUXENT RIVER MB	130,532	6,767,973	51.85	6,556,474	6,556,474	6,450,724	6,450,724	6,450,724	6,344,975	6,239,225	6,133,476	
Navy	MD	N0431A	AMSORDRESINS BETHESDA TOTAL	9,914	545,566	55.03	528,517	528,517	519,993	519,993	519,993	511,468	502,944	494,419	
Navy	MD	D00161	USNA ANNAPOLIS MB	74,936	4,311,778	57.54	4,177,035	4,177,035	4,109,663	4,109,663	4,109,663	4,042,292	3,974,920	3,907,549	
Navy	MD	N68336	UNISRUOSHEACSN BETHESDA TOTAL	17,817	1,037,857	58.25	1,005,424	1,005,424	989,207	989,207	989,207	972,991	956,774	940,558	
Navy	MD	D00174	NOS INDIAN HEAD MB	27,434	1,690,400	61.62	1,637,575	1,637,575	1,611,163	1,611,163	1,611,163	1,584,750	1,558,338	1,531,925	
Navy	MD	N66098	NH PATUXENT RIVER TOTAL	2,911	151,418	52.02	146,686	146,686	144,320	144,320	144,320	141,954	139,588	137,223	
Navy	MD	D0417A	NSF THURMONT MB	8,761	395,849	45.18	383,479	383,479	377,294	377,294	377,294	371,108	364,923	358,738	
				439,188	25,086,317	57.12	24,302,370	24,302,370	24,302,370	23,910,396	23,910,396	23,518,422	23,126,448	22,734,475	
Navy	ME	D60087	NAS BRUNSWICK MB	26,410	1,712,756	64.85	1,664,509	1,640,386	1,615,263	1,592,139	1,568,016	1,543,893	1,543,893	1,543,893	
Navy	ME	N30316	NASTROGRP DET ALPHA PROSPECT HAR TO	877	81,561	93.00	79,264	79,264	78,115	76,966	75,817	74,669	73,520	73,520	
Navy	ME	D00702	NSGA WINTER HARBOR MB	10,238	827,584	80.83	804,272	804,272	792,616	780,960	769,303	757,647	745,991	745,991	
Navy	ME	D63038	NCU EAST MACHIAS MB	3,608	332,689	92.21	323,317	323,317	318,632	313,946	309,260	304,574	299,889	299,889	
				41,133	2,954,590	71.83	2,871,362	2,829,748	2,789,134	2,746,520	2,704,906	2,663,292	2,663,292	2,663,292	
Navy	NH	D00102	NSY PORTSMOUTH MB	56,301	3,465,829	61.56	3,368,200	3,368,200	3,319,386	3,270,571	3,221,757	3,172,942	3,172,942	3,124,128	

## DOD Electric Power Usage and Cost Baseline

Group of 17 - Main Base Only

		Baseline Total Costs											
FY 1996			\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005
	MWh												
Navy	NJ	B60478	NWS COLTS NECK MB+SHIP	25,971	2,395,774	92.25	2,320,906	2,320,906	2,320,906	2,283,472	2,283,472	2,208,804	2,171,170
Navy	NJ	D68335	NAEC LAKEHURST MB	30,299	2,585,933	85.35	2,505,123	2,505,123	2,464,717	2,464,717	2,424,312	2,383,907	2,343,502
Navy	NJ	N63094	NATTC LAKEHURST TOTAL	650	57,658	88.70	55,856	55,856	54,955	54,955	54,054	53,153	52,253
				56,920	5,039,365	88.53	4,881,885	4,881,885	4,803,145	4,803,145	4,724,405	4,645,665	4,566,925
Navy	NV	D60495	NAS FALLON MB	28,504	1,629,548	57.17	1,608,107	1,608,107	1,543,782	1,522,341	1,522,341	1,500,899	1,458,017
Navy	PA	N31093	DEFENSE DEPOT MECHANICSBURG TOTAL	21,593	1,272,238	58.92	1,232,481	1,232,481	1,212,602	1,212,602	1,192,723	1,172,844	1,152,966
Navy	PA	D00104	SPCC MECHANICSBURG MB	57,729	3,412,703	59.12	3,306,056	3,306,056	3,252,733	3,252,733	3,199,409	3,146,086	3,092,762
Navy	PA	D00158	NAS WILLOW GROVE MB	20,658	1,457,752	70.57	1,412,197	1,412,197	1,389,420	1,389,420	1,366,642	1,343,865	1,321,088
				99,980	6,142,693	61.44	5,950,734	5,950,734	5,854,754	5,854,754	5,758,775	5,662,795	5,566,816
Navy	RI	N66604	NUSC NEWPORT TOTAL	52,794	4,436,280	84.03	4,311,314	4,248,832	4,123,866	4,061,383	4,061,383	3,998,900	3,998,900
Navy	RI	D62661	NETC NEWPORT MB	29,494	2,606,822	88.38	2,533,390	2,496,675	2,423,243	2,386,527	2,386,527	2,349,811	2,349,811
Navy	RI	N00124	NWC NEWPORT TOTAL	7,601	670,869	88.26	651,971	642,522	623,625	614,176	614,176	604,727	604,727
Navy	RI	N68086	NRMC NEWPORT TOTAL	3,780	334,181	88.41	324,767	320,061	310,647	305,940	305,940	301,234	301,234
Navy	RI	N68351	NRRC NEWPORT TOTAL	2,564	278,715	108.70	270,864	266,938	259,087	255,162	255,162	251,236	251,236
				96,233	8,326,867	86.53	8,092,307	7,975,028	7,740,468	7,623,188	7,623,188	7,505,908	7,505,908
Navy	WA	D00620	NAS WHIDBEY ISLAND MB	63,487	2,718,632	42.82	3,044,868	3,153,613	3,371,104	3,371,104	3,479,849	3,371,104	3,371,104
Navy	WA	N68095	NRMC BREMERTON TOTAL	10,065	655,538	65.13	734,203	760,424	812,867	812,867	839,089	812,867	812,867
Navy	WA	N68097	NH WHIDBEY ISLAND TOTAL	3,819	189,463	49.61	212,199	219,777	234,934	234,934	242,513	234,934	234,934
Navy	WA	N00621	NARU WHIDBEY ISLAND TOTAL	1,566	70,464	45.00	78,920	81,738	87,375	87,375	90,194	87,375	87,375
Navy	WA	P68328	NRRC SEATTLE TOTAL	2,048	146,104	71.34	163,636	169,481	181,169	181,169	187,013	181,169	181,169
Navy	WA	N00253	NAVUNDWANGSTA KEYPORT TOTAL	47,575	1,927,344	40.51	2,158,625	2,235,719	2,389,907	2,389,907	2,467,000	2,389,907	2,389,907
Navy	WA	P00251	NSY PUGET SOUND MB+SHIP	224,730	6,623,918	29.48	7,418,788	7,683,745	8,213,658	8,213,658	8,478,615	8,213,658	8,213,658
Navy	WA	N68437	NTF BREMERTON TOTAL	20,732	648,198	31.27	725,982	751,910	803,766	803,766	829,693	803,766	803,766
Navy	WA	N55639	NISMF BREMERTON TOTAL	1,886	47,454	25.16	53,148	55,047	58,843	58,843	60,741	58,843	58,843
Navy	WA	N70273	NRS JIM CREEK OSO TOTAL	8,891	207,798	23.37	31,368,187	32,488,480	34,729,064	34,729,064	35,849,357	34,729,064	34,729,064
Navy	WA	N68438	TRIREFAC BREMERTON TOTAL	33,597	799,972	23.81	895,969	927,968	991,965	991,965	1,023,964	991,965	991,965
Navy	WA	N63402	SWFPAC BREMERTON TOTAL	29,663	1,023,326	34.50	1,146,125	1,187,058	1,268,924	1,268,924	1,309,857	1,268,924	1,268,924
Navy	WA	P68436	NAVSUBASE BANGOR BREMERTON SHIP TOT	20,568	709,736	34.51	794,904	823,294	880,073	880,073	908,462	880,073	880,073
Navy	WA	D68436	NSB BREMERTON MB	50,095	1,727,517	34.48	1,934,819	2,003,920	2,142,121	2,142,121	2,211,222	2,142,121	2,142,121
Navy	WA	N00406	NSC PUGET SOUND TOTAL	8,734	277,836	31.81	311,176	322,290	344,517	344,517	355,630	344,517	344,517
				527,456	17,773,300	33.70	51,041,549	52,864,462	56,510,287	56,510,287	58,333,199	56,510,287	56,510,287

DOD Electric Power Usage and Cost Baseline  
Group of 17 - Main Base Only

FY 1996		Baseline Total Costs												
MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005			
TOTAL (NAVY)			3,194,719	180,632,469		211,772,023	212,481,499	215,720,829	211,224,091	210,758,434	209,176,257	210,373,313	206,403,279	203,308,146
USAF AZ	FP4887	LUKE AFB	61,717	4,060,107	65.79	3,980,497	3,900,887	3,900,887	3,821,277	3,821,277	3,741,667	3,741,667	3,741,667	3,741,667
USAF AZ	FP4877	DAVIS MONTHAN AF	65,335	4,789,947	73.31	4,696,026	4,602,106	4,602,106	4,508,185	4,508,185	4,414,265	4,414,265	4,414,265	4,414,265
			127,052	8,850,054	69.66	8,676,524	8,502,993	8,502,993	8,329,463	8,329,463	8,155,932	8,155,932	8,155,932	8,155,932
USAF CA	FP2805	EDWARDS AFB	94,913	7,091,018	74.71	7,091,018	6,997,715	6,997,715	6,717,807	6,717,807	6,624,504	6,624,504	6,531,201	6,344,595
USAF CA	FY7311	ONIZUKA AFB	22,941	1,657,861	72.27	1,657,861	1,636,047	1,636,047	1,570,605	1,570,605	1,548,791	1,548,791	1,526,977	1,483,349
USAF CA	EY7396	LOS ANGELES AFS	28,720	2,633,469	91.70	2,633,469	2,598,818	2,598,818	2,494,865	2,494,865	2,460,214	2,460,214	2,425,564	2,356,262
USAF CA	EY7765	PILLAR POINT AFS	884	88,697	100.34	88,697	87,530	87,530	84,029	84,029	82,862	82,862	81,695	79,360
USAF CA	FY9749	POINT ARENA AFS	1,643	148,580	90.43	148,580	146,625	146,625	140,760	140,760	138,805	138,805	136,850	132,940
USAF CA	FP4427	TRAVIS AFB	15,723	1,135,166	72.20	1,135,166	1,120,230	1,120,230	1,075,420	1,075,420	1,060,484	1,060,484	1,045,548	1,015,675
USAF CA	FB4610	VANDENBERG AFB	187,847	9,616,238	51.19	9,616,238	9,489,709	9,489,709	9,110,120	9,110,120	8,983,591	8,983,591	8,857,061	8,604,002
USAF CA	EY9887	SANTA YNEZ PEAK	60	6,596	110.35	6,596	6,509	6,509	6,249	6,249	6,162	6,162	6,075	5,902
USAF CA	EY1525	ANDERSON PEAK	39	5,199	132.42	5,199	5,131	5,131	4,925	4,925	4,857	4,857	4,789	4,652
			352,769	22,382,824	63.45	22,382,824	22,088,313	22,088,313	21,204,781	21,204,781	20,910,270	20,910,270	20,615,759	20,026,737
USAF IL	FP4407	SCOTT AFB	102,314	5,310,664	51.91	5,192,649	5,310,664	5,310,664	5,310,664	5,310,664	5,310,664	5,310,664	5,310,664	5,192,649
USAF IL	FP6818	O'HARE ARFF	11,837	888,064	75.02	868,329	888,064	888,064	888,064	888,064	888,064	888,064	888,064	868,329
			114,151	6,198,728	54.30	6,060,978	6,198,728	6,198,728	6,198,728	6,198,728	6,198,728	6,198,728	6,198,728	6,060,978
USAF IN	FP4654	GRISSOM AFB/ARB	44,390	1,595,556	35.94	1,563,645	1,531,734	1,531,734	1,531,734	1,499,823	1,499,823	1,467,912	1,467,912	1,436,000
USAF MA	FP2835	L G HANSCOM AFB	67,798	6,042,861	89.13	5,872,640	5,872,640	5,787,529	5,702,418	5,617,307	5,532,197	5,532,197	5,447,086	5,447,086
USAF MA	FP6606	WESTOVER ARB	14,782	1,066,758	72.17	1,036,708	1,036,708	1,021,684	1,006,559	991,634	976,609	976,609	961,585	961,585
			82,580	7,109,619	86.09	6,909,348	6,909,348	6,809,213	6,709,077	6,608,942	6,508,806	6,508,806	6,408,671	6,408,671
USAF MD	FP4425	ANDREWS AFB	85,387	5,249,538	61.48	5,085,490	5,085,490	5,085,490	5,003,466	5,003,466	5,003,466	4,921,442	4,839,418	4,757,394
USAF MT	FP4626	MALMSTROM AFB	70,839	3,213,229	45.36	3,598,816	3,727,346	3,984,404	3,984,404	3,984,404	3,984,404	4,112,933	3,984,404	3,984,404
USAF NH	FY7743	NEW BOSTON	5,294	506,143	95.60	491,885	491,885	484,757	477,528	470,499	463,370	463,370	456,242	456,242
USAF NJ	FP4484	MCGUIRE AFB	63,185	5,427,919	85.91	5,258,297	5,258,297	5,258,297	5,173,485	5,173,485	5,173,485	5,088,674	5,003,863	4,919,052
USAF NJ	FY7994	GIBBSBORO AFS	50	5,738	115.20	5,559	5,559	5,559	5,469	5,469	5,469	5,379	5,290	5,200
			63,235	5,433,657	85.93	5,263,855	5,263,855	5,263,855	5,178,954	5,178,954	5,178,954	5,094,053	5,009,153	4,924,252

DOD Electric Power Usage and Cost Baseline  
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	FY 1996 MWh	\$	\$/MWh	Baseline Total Costs										
				1997	1998	1999	2000	2001	2002	2003	2004	2005		
USAF NV FP4852 NELLIS AFB	92,742	4,788,833	51.84	4,788,833	4,725,822	4,725,822	4,536,789	4,536,789	4,473,778	4,473,778	4,410,767	4,284,745		
USAF NY FP6670 NIAGARA FALLS	5,137	488,894	95.17	479,840	470,787	470,787	470,787	461,733	452,680	452,680	434,572	434,572		
	97,879	5,277,727	53.92	5,268,673	5,196,609	5,196,609	5,007,576	4,998,522	4,926,458	4,926,458	4,845,340	4,719,318		
USAF PA FP6712 PITTSBURGH IAP	5,363	376,823	70.27	385,047	365,047	365,047	359,159	359,159	359,159	353,272	347,384	341,496		
USAF PA FP6637 WILLOW GROVE ARS	7,073	580,008	82.00	561,883	561,883	561,883	552,820	552,820	552,820	543,758	534,695	525,632		
	12,436	956,831	76.94	926,930	926,930	926,930	911,980	911,980	911,980	897,029	882,079	867,128		
USAF WA FP4479 MCCHORD AFB	42,880	1,129,645	26.34	1,285,202	1,310,388	1,400,760	1,400,760	1,400,760	1,400,760	1,445,946	1,400,760	1,400,760		
USAF WA FB4620 FAIRCHILD AFB	51,651	1,601,447	31.01	1,793,621	1,857,679	1,985,794	1,985,794	1,985,794	1,985,794	2,049,852	1,985,794	1,985,794		
	94,530	2,731,092	28.89	3,058,823	3,168,067	3,386,554	3,386,554	3,386,554	3,386,554	3,495,798	3,386,554	3,386,554		
TOTAL (AIR FORCE)	1,150,544	69,504,998		69,287,793	69,091,298	69,459,579	67,924,344	67,776,115	67,128,745	67,152,731	66,250,190	65,183,610		
USMC AZ K62974 MCAS YUMA MB	38,837	2,887,196	74.34	2,830,584	2,773,973	2,773,973	2,717,361	2,717,361	2,660,749	2,660,749	2,660,749	2,660,749		
USMC CA K00243 MCRD SAN DIEGO MB	16,869	1,195,328	70.86	1,195,328	1,179,600	1,179,600	1,132,416	1,132,416	1,116,688	1,116,688	1,100,960	1,069,504		
USMC CA K67399 MCCOMBATCTR 29 PALMS MB	69,877	5,707,850	81.68	5,707,850	5,632,747	5,632,747	5,407,437	5,407,437	5,332,334	5,332,334	5,257,230	5,107,024		
USMC CA K00681 MCB CAMP PENDLETON MB	129,690	8,568,710	66.07	8,568,710	8,455,964	8,455,964	8,117,725	8,117,725	8,004,979	8,004,979	7,892,233	7,666,741		
USMC CA K62204 MCLB BARSTOW MB	34,257	2,921,830	85.29	2,921,830	2,883,385	2,883,385	2,768,049	2,768,049	2,729,604	2,729,604	2,691,159	2,614,269		
	250,693	18,393,718	74.34	18,393,718	18,151,695	18,151,695	17,425,628	17,425,628	17,183,605	17,183,605	16,941,582	16,457,537		
TOTAL (MARINE CORPS)	289,530	21,280,914		21,224,302	20,925,668	20,925,668	20,142,989	20,142,989	19,844,354	19,844,354	19,602,332	19,118,286		
TOTAL (ALL SERVICES)	6,920,366	404,664,352		433,352,798	433,211,654	437,408,490	428,755,883	427,666,269	424,425,992	424,704,551	417,200,162	410,880,281		

DOD Electric Power Usage and Cost Baseline  
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			2006	2007	2008	2009	2010	2011	NPV	Total (nom)
Army	AZ	NA	YUMA PG							
			638,428	638,428	624,549	610,670	610,670	596,791	9,715,204	9,715,204
Army	AZ	NA	FT HUACHUCA							
			6,697,619	6,697,619	6,552,019	6,406,418	6,406,418	6,260,818	101,920,288	101,920,288
			<b>7,336,047</b>	<b>7,336,047</b>	<b>7,176,567</b>	<b>7,017,088</b>	<b>7,017,088</b>	<b>6,857,609</b>	<b>111,635,492</b>	<b>111,635,492</b>
Army	CA	NA	SHARPE AD							
			1,044,324	1,044,324	1,013,609	1,044,324	1,028,967	1,028,967	16,187,027	16,187,027
Army	CA	NA	SIERRA AD							
			1,320,980	1,320,980	1,282,127	1,320,980	1,301,553	1,301,553	20,475,184	20,475,184
Army	CA	NA	FT IRWIN							
			8,012,669	8,012,669	7,777,002	8,012,669	7,894,836	7,894,836	124,196,370	124,196,370
			<b>10,377,973</b>	<b>10,377,973</b>	<b>10,072,739</b>	<b>10,377,973</b>	<b>10,225,356</b>	<b>10,225,356</b>	<b>160,858,581</b>	<b>160,858,581</b>
Army	IL	NA	C. M. PRICE SC							
			479,543	490,695	490,695	479,543	479,543	468,391	7,362,727	7,362,727
Army	IL	NA	SAVANNA AD							
			195,741	200,293	200,293	195,741	195,741	191,189	3,013,498	3,013,498
Army	IL	NA	ROCK ISLAND Afs							
			3,804,138	3,892,607	3,892,607	3,804,138	3,804,138	3,715,670	58,566,037	58,566,037
			<b>4,479,422</b>	<b>4,583,594</b>	<b>4,583,594</b>	<b>4,479,422</b>	<b>4,479,422</b>	<b>4,375,249</b>	<b>68,962,261</b>	<b>68,962,261</b>
Army	IN	NA	NEWPORT AAP							
			<b>107,393</b>	<b>107,393</b>	<b>107,393</b>	<b>107,393</b>	<b>105,006</b>	<b>102,620</b>	<b>1,649,072</b>	<b>1,649,072</b>
Army	MA	NA	NATICK R & D CENTER							
			1,337,074	1,295,291	1,274,399	1,337,074	1,295,291	1,316,183	20,327,710	20,327,710
Army	MD	NA	FT DETRICK							
			5,228,887	5,140,262	4,874,386	4,963,011	5,051,637	4,874,386	78,521,930	78,521,930
Army	MD	NA	ABERDEEN ARMY PG							
			12,928,216	12,709,094	12,051,727	12,270,849	12,489,972	12,051,727	194,142,369	194,142,369
Army	MD	NA	FT MEADE							
			18,932,762	18,611,867	17,649,185	17,970,079	18,290,973	17,649,185	284,312,319	284,312,319
			<b>37,089,865</b>	<b>36,461,223</b>	<b>34,575,298</b>	<b>35,203,940</b>	<b>35,832,582</b>	<b>34,575,298</b>	<b>556,976,618</b>	<b>556,976,618</b>
Army	MI	NA	DETROIT Afs							
			2,151,364	2,151,364	2,151,364	2,151,364	2,103,556	2,055,747	33,035,383	33,035,383
Army	MI	NA	SELFRIEDGE SC							
			1,594,615	1,594,615	1,594,615	1,594,615	1,559,179	1,523,743	24,486,193	24,486,193
			<b>3,745,978</b>	<b>3,745,978</b>	<b>3,745,978</b>	<b>3,745,978</b>	<b>3,662,734</b>	<b>3,579,490</b>	<b>57,521,576</b>	<b>57,521,576</b>
Army	NH	NA	COLD REGIONS LAB							
			<b>559,472</b>	<b>541,988</b>	<b>533,247</b>	<b>559,472</b>	<b>541,988</b>	<b>550,730</b>	<b>8,505,719</b>	<b>8,505,719</b>
Army	NJ	NA	FT DIX							
			6,855,222	6,739,032	6,390,461	6,506,651	6,622,842	6,390,461	102,944,520	102,944,520
Army	NJ	NA	PICATINNY Afs							
			3,778,858	3,714,809	3,522,664	3,586,712	3,650,761	3,522,664	56,746,916	56,746,916
Army	NJ	NA	FT MONMOUTH							
			6,751,716	6,637,280	6,293,972	6,408,408	6,522,844	6,293,972	101,390,171	101,390,171
Army	NJ	NA	BAYONNE MOT							
			1,882,264	1,850,361	1,754,653	1,786,556	1,818,459	1,754,653	28,265,864	28,265,864
			<b>19,288,060</b>	<b>18,941,482</b>	<b>17,961,750</b>	<b>18,288,328</b>	<b>18,614,905</b>	<b>17,961,750</b>	<b>289,347,471</b>	<b>289,347,471</b>
Army	NV	NA	HAWTHORNE AAP							
			469,360	469,360	455,555	469,360	462,458	462,458	7,275,082	7,275,082
Army	NY	NA	FT DRUM							
			8,371,420	8,371,420	8,197,015	7,848,206	8,197,015	8,022,610	128,536,171	128,536,171

DOD Electric Power Usage and Cost Baseline  
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			2006	2007	2008	2009	2010	2011	NPV	Total (nom)
Army	NY	NA	WATERVLIET A's	3,115,392	3,050,488	2,920,680	3,050,488	2,985,584	47,834,248	47,834,248
Army	NY	NA	U S MILITARY ACADEMY	4,685,564	4,587,948	4,392,716	4,587,948	4,490,332	71,942,924	71,942,924
Army	NY	NA	FT HAMILTON	1,273,880	1,247,341	1,194,262	1,247,341	1,220,802	19,559,366	19,559,366
			<b>17,915,615</b>	<b>17,915,615</b>	<b>17,538,347</b>	<b>16,825,224</b>	<b>17,545,249</b>	<b>17,181,786</b>	<b>275,147,791</b>	<b>275,147,791</b>
Army	PA	NA	KELLY SUP FAC	293,905	288,923	273,979	278,960	273,979	4,413,554	4,413,554
Army	PA	NA	SCRANTON AAP	1,725,582	1,700,267	1,612,322	1,641,637	1,612,322	25,973,048	25,973,048
Army	PA	NA	CARLISLE BARRACKS	1,327,903	1,305,396	1,237,876	1,260,382	1,237,876	19,941,050	19,941,050
Army	PA	NA	NEW CUMBERLAND AD	2,626,368	2,581,854	2,448,310	2,492,824	2,448,310	39,440,041	39,440,041
Army	PA	NA	TOBYHANNA AD	2,231,356	2,193,536	2,080,078	2,117,897	2,080,078	33,508,160	33,508,160
Army	PA	NA	PHILADELPHIA DCS	1,567,188	1,540,625	1,460,938	1,487,500	1,460,938	23,534,375	23,534,375
Army	PA	NA	LETTER KENNY AD	2,617,380	2,573,018	2,439,931	2,484,293	2,439,931	39,305,064	39,305,064
			<b>12,393,682</b>	<b>12,183,620</b>	<b>11,553,432</b>	<b>11,763,495</b>	<b>11,973,557</b>	<b>11,553,432</b>	<b>186,115,292</b>	<b>186,115,292</b>
Army	VA	NA	FT LEWIS	<b>9,561,288</b>	<b>9,561,288</b>	<b>9,561,288</b>	<b>9,252,859</b>	<b>9,252,859</b>	<b>141,260,317</b>	<b>141,260,317</b>
			<b>TOTAL (ARMY)</b>	<b>124,171,868</b>	<b>123,051,492</b>	<b>118,684,032</b>	<b>118,968,246</b>	<b>117,532,362</b>	<b>1,878,307,902</b>	<b>1,878,307,902</b>
Navy	AZ	N66080	NSPASURSTA MARICOPA TOTAL	<b>80,426</b>	<b>80,426</b>	<b>78,678</b>	<b>76,929</b>	<b>75,181</b>	<b>1,223,875</b>	<b>1,223,875</b>
Navy	CA	P63406	NAVSUBBASE SAN DIEGO TOTAL	3,093,297	3,093,297	3,002,317	3,047,807	3,047,807	47,946,099	47,946,099
Navy	CA	P62583	NCBC PORT HUENEME MB+SHIP	2,082,029	2,082,029	2,020,793	2,082,029	2,051,411	32,271,455	32,271,455
Navy	CA	N62474	NFEC SAN BRUNO TOTAL	162,928	162,928	158,136	162,928	160,532	2,525,384	2,525,384
Navy	CA	N00948	FAWTC SAN DIEGO TOTAL	800,366	800,366	776,826	800,366	788,596	12,405,677	12,405,677
Navy	CA	N66079	NSPASURSTA CHULA VISTA TOTAL	13,404	13,404	13,010	13,404	13,207	207,763	207,763
Navy	CA	D62271	NPGS MONTEREY MB	1,125,149	1,125,149	1,092,056	1,125,149	1,108,602	17,439,803	17,439,803
Navy	CA	D60259	NAS MIRAMAR MB	2,839,527	2,839,527	2,756,012	2,839,527	2,797,769	44,012,669	44,012,669
Navy	CA	D60042	NAF EL CENTRO MB	322,989	322,989	313,490	322,989	318,239	5,006,334	5,006,334
Navy	CA	N65885	NARF ALAMEDA TOTAL	2,634,953	2,634,953	2,557,455	2,634,953	2,596,204	40,841,779	40,841,779
Navy	CA	N91285	NIROP SUNNYVALE TOTAL	1,523,442	1,523,442	1,478,634	1,523,442	1,501,038	23,613,344	23,613,344
Navy	CA	D60530	NWC CHINA LAKE MB	6,422,651	6,422,651	6,233,749	6,422,651	6,328,200	99,551,090	99,551,090
Navy	CA	D63126	PMTG POINT MUGU MB	3,724,954	3,724,954	3,615,397	3,724,954	3,670,175	57,736,789	57,736,789
Navy	CA	N63406	NSB SAN DIEGO TOTAL	670,318	670,318	650,603	670,318	660,460	10,389,930	10,389,930
Navy	CA	N66095	NH LEMOORE TOTAL	97,539	97,539	94,670	97,539	96,104	1,511,852	1,511,852
Navy	CA	D60701	NWS SEAL BEACH MB	886,334	886,334	860,266	886,334	873,300	13,738,183	13,738,183
Navy	CA	N65918	SIMA SAN DIEGO TOTAL	<b>275,970</b>	<b>275,970</b>	<b>267,853</b>	<b>275,970</b>	<b>271,912</b>	<b>4,277,534</b>	<b>4,277,534</b>



## DOD Electric Power Usage and Cost Baseline

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			2006	2007	2008	2009	2010	2011	NPV	Total (nom)
Navy	CA	N35723	NDCB LEMOORE TOTAL	15,992	15,992	15,521	15,992	15,756	247,870	247,870
Navy	CA	D00396	NWS SEAL BEACH DET FALLBROOK MB	133,670	133,670	129,739	133,670	131,704	2,071,887	2,071,887
Navy	CA	N39353	ICSTF SAN DIEGO TOTAL	214,887	214,887	208,567	214,887	211,727	3,330,751	3,330,751
Navy	CA	N66001	NOSC SAN DIEGO TOTAL	3,775,235	3,775,235	3,664,198	3,775,235	3,719,717	58,516,138	58,516,138
Navy	CA	N70240	NCS SAN DIEGO TOTAL	967,123	967,123	938,678	967,123	952,900	14,990,404	14,990,404
Navy	CA	P00245	NS SAN DIEGO TOTAL	12,426,067	12,426,067	12,060,594	12,426,067	12,243,331	192,604,035	192,604,035
Navy	CA	N61665	FCTC PAC SAN DIEGO TOTAL	564,931	564,931	548,315	564,931	556,623	8,756,424	8,756,424
Navy	CA	N67030	MB VALLEJO TOTAL	9,298	9,298	9,025	9,298	9,161	144,121	144,121
Navy	CA	P63387	PWC SAN DIEGO MB+SHIP	15,144,839	15,144,839	14,699,403	15,144,839	14,922,121	234,745,008	234,745,008
Navy	CA	N61690	FTC SAN DIEGO TOTAL	397,220	397,220	385,537	397,220	391,379	6,156,913	6,156,913
Navy	CA	N00259	NMC SAN DIEGO TOTAL	2,375,485	2,375,485	2,305,618	2,375,485	2,340,552	36,820,020	36,820,020
Navy	CA	N00244	NSC SAN DIEGO TOTAL	1,388,139	1,388,139	1,347,311	1,388,139	1,367,725	21,516,148	21,516,148
Navy	CA	N62021	NAB CORONADO TOTAL	1,604,279	1,604,279	1,557,095	1,604,279	1,580,687	24,866,329	24,866,329
Navy	CA	N68094	NRMC CAMP PENDLETON TOTAL	673,268	673,268	653,466	673,268	663,367	10,435,654	10,435,654
Navy	CA	P60036	NWS CONCORD MB+SHIP	267,462	267,462	259,595	267,462	263,529	4,145,659	4,145,659
Navy	CA	N68350	NRRC SAN DIEGO TOTAL	126,906	126,906	123,173	126,906	125,040	1,967,041	1,967,041
Navy	CA	N63139	NARU ALAMEDA TOTAL	45,331	45,331	43,998	45,331	44,864	702,630	702,630
Navy	CA	N68308	NRRC SAN FRANCISCO TOTAL	1,030,057	1,030,057	999,761	1,030,057	1,014,909	15,965,881	15,965,881
Navy	CA	N00246	NAS NORTH ISLAND TOTAL	2,730,927	2,730,927	2,650,606	2,730,927	2,690,767	42,329,375	42,329,375
Navy	CA	N66022	NRDC SAN DIEGO TOTAL	245,629	245,629	238,404	245,629	242,016	3,807,242	3,807,242
Navy	CA	P00246	NAS NORTH ISLAND SAN DIEGO TOTAL	2,278,319	2,278,319	2,211,309	2,278,319	2,244,814	35,313,937	35,313,937
Navy	CA	N65888	NARF SAN DIEGO TOTAL	3,153,297	3,153,297	3,060,553	3,153,297	3,106,925	48,876,102	48,876,102
Navy	CA	N63134	FNOC MONTEREY TOTAL	833,795	833,795	809,272	833,795	821,534	12,923,829	12,923,829
Navy	CA	N63394	NSWSES PORT HUENEME TOTAL	602,140	602,140	584,430	602,140	593,285	9,333,170	9,333,170
Navy	CA	N64267	FACNWC CORONA TOTAL	631,971	631,971	613,383	631,971	622,677	9,795,543	9,795,543
Navy	CA	N62791	SHIPBUILDING C&R SAN DIEGO TOTAL	57,376	57,376	55,688	57,376	56,532	889,326	889,326
				<b>78,369,492</b>	<b>78,369,492</b>	<b>76,064,507</b>	<b>78,369,492</b>	<b>77,216,999</b>	<b>1,214,727,123</b>	<b>1,214,727,123</b>
Navy	CT	N70024	NUSC NEW LONDON TOTAL	1,725,673	1,725,673	1,644,782	1,725,673	1,698,709	26,235,616	26,235,616
Navy	CT	N92782	NWIRP BLOOMFIELD TOTAL	666,956	646,113	635,692	666,956	656,535	10,139,811	10,139,811
Navy	CT	N61726	NAVSUBMEDCTR NEW LONDON TOTAL	294,098	284,998	280,303	294,098	289,493	4,471,058	4,471,058
Navy	CT	N00750	SUBSCOL GROTON TOTAL	920,187	891,432	877,054	920,187	905,810	13,989,725	13,989,725
Navy	CT	B00129	NAV SUBBASE NEW LONDON MB+SHIP	6,926,066	6,709,627	6,601,407	6,926,066	6,817,847	105,297,854	105,297,854
				<b>10,532,970</b>	<b>10,203,815</b>	<b>10,039,237</b>	<b>10,532,970</b>	<b>10,368,393</b>	<b>160,134,065</b>	<b>160,134,065</b>
Navy	IL	D65113	PWC GREAT LAKES MB	93,433	95,606	95,606	93,433	91,260	1,438,438	1,438,438
Navy	IL	N00210	NTC GREAT LAKES TOTAL	4,111,514	4,207,130	4,207,130	4,111,514	4,015,897	63,298,189	63,298,189

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		2006	2007	2008	2009	2010	2011	NPV	Total (nom)
Navy	IL N68330	276,075	282,496	282,496	276,075	276,075	269,655	4,250,275	4,250,275
Navy	IL N00211	675,102	690,802	690,802	675,102	675,102	659,402	10,393,429	10,393,429
Navy	IL N68326	64,454	65,953	65,953	64,454	64,454	62,955	992,294	992,294
		<b>5,220,578</b>	<b>5,341,987</b>	<b>5,341,987</b>	<b>5,220,578</b>	<b>5,220,578</b>	<b>5,099,170</b>	<b>80,372,626</b>	<b>80,372,626</b>
Navy	IN D00164	<b>2,662,306</b>	<b>2,662,306</b>	<b>2,662,306</b>	<b>2,662,306</b>	<b>2,603,144</b>	<b>2,543,981</b>	<b>40,881,191</b>	<b>40,881,191</b>
Navy	MA N93880	471,491	456,757	449,390	471,491	456,757	464,124	7,168,132	7,168,132
Navy	MA N91041	1,717,879	1,664,195	1,637,353	1,717,879	1,664,195	1,691,037	26,117,129	26,117,129
		<b>2,189,370</b>	<b>2,120,952</b>	<b>2,086,743</b>	<b>2,189,370</b>	<b>2,120,952</b>	<b>2,155,161</b>	<b>33,285,261</b>	<b>33,285,261</b>
Navy	MD N00167	2,099,249	2,063,668	1,956,927	1,992,507	2,028,088	1,956,927	31,524,309	31,524,309
Navy	MD N35328	402,019	395,205	374,763	381,577	388,391	374,763	6,037,093	6,037,093
Navy	MD N63822	106,580	104,773	99,354	101,161	102,987	99,354	1,600,504	1,600,504
Navy	MD D61533	1,065,991	1,047,923	993,720	1,011,788	1,029,856	993,720	16,007,930	16,007,930
Navy	MD N00788	317,103	311,728	295,604	300,979	306,354	295,604	4,761,918	4,761,918
Navy	MD N62640	101,305	99,588	94,437	96,154	97,871	94,437	1,521,290	1,521,290
Navy	MD N00162	82,980	81,573	77,354	78,760	80,167	77,354	1,246,104	1,246,104
Navy	MD N66843	237,875	233,843	221,748	225,780	229,812	221,748	3,572,158	3,572,158
Navy	MD N0464A	982,364	946,052	897,119	913,430	929,741	897,119	14,451,768	14,451,768
Navy	MD N00168	4,014,272	3,946,233	3,742,118	3,810,156	3,878,195	3,742,118	60,282,111	60,282,111
Navy	MD D00421	6,239,225	6,133,476	5,816,227	5,921,976	6,027,726	5,816,227	93,694,126	93,694,126
Navy	MD N0431A	502,944	494,419	468,846	477,370	485,895	468,846	7,552,679	7,552,679
Navy	MD D00161	3,974,920	3,907,549	3,705,434	3,772,806	3,840,177	3,705,434	59,691,177	59,691,177
Navy	MD N68336	956,774	940,558	891,908	908,125	924,341	891,908	14,367,833	14,367,833
Navy	MD D00174	1,558,338	1,531,925	1,452,688	1,479,100	1,505,513	1,452,688	23,401,475	23,401,475
Navy	MD N66098	139,588	137,223	130,125	132,491	134,857	130,125	2,096,193	2,096,193
Navy	MD D0417A	364,923	358,738	340,183	346,368	352,553	340,183	5,480,035	5,480,035
		<b>23,126,448</b>	<b>22,734,475</b>	<b>21,558,554</b>	<b>21,950,527</b>	<b>22,342,501</b>	<b>21,558,554</b>	<b>347,288,701</b>	<b>347,288,701</b>
Navy	ME D60087	1,543,893	1,495,646	1,471,523	1,543,893	1,495,646	1,519,769	23,471,994	23,471,994
Navy	ME N30316	73,520	71,222	70,074	73,520	71,222	72,371	1,117,730	1,117,730
Navy	ME D00702	745,991	722,679	711,023	745,991	722,679	734,335	11,341,398	11,341,398
Navy	ME D63038	298,889	290,517	285,831	299,889	290,517	295,203	4,559,245	4,559,245
		<b>2,663,292</b>	<b>2,580,065</b>	<b>2,538,451</b>	<b>2,663,292</b>	<b>2,580,065</b>	<b>2,621,678</b>	<b>40,490,367</b>	<b>40,490,367</b>
Navy	NH D00102	3,124,128	3,026,499	2,977,684	3,124,128	3,026,499	3,075,313	47,496,502	47,496,502

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		2006	2007	2008	2009	2010	2011	NPV	Total (nom)
Navy	NJ B60478	NWS COLTS NECK MB+SHIP	2,208,604	2,171,170	2,058,868	2,096,302	2,133,736	33,166,496	33,166,496
Navy	NJ D68335	NAEC LAKEHURST MB	2,383,907	2,343,502	2,222,286	2,262,691	2,303,097	35,799,010	35,799,010
Navy	NJ N63094	NATTC LAKEHURST TOTAL	53,153	52,253	49,550	50,451	51,352	798,203	798,203
			4,645,665	4,566,925	4,330,704	4,409,444	4,488,184	69,763,709	69,763,709
Navy	NV D60495	NAS FALLON MB	1,458,017	1,458,017	1,415,134	1,458,017	1,436,575	22,599,258	22,599,258
Navy	PA N31093	DEFENSE DEPOT MECHANICSBURG TOTAL	1,172,844	1,152,966	1,093,330	1,113,208	1,133,087	17,612,545	17,612,545
Navy	PA D00104	SPCC MECHANICSBURG MB	3,146,086	3,092,762	2,932,792	2,986,115	3,039,439	47,244,607	47,244,607
Navy	PA D00158	NAS WILLOW GROVE MB	1,343,865	1,321,088	1,252,756	1,275,533	1,298,310	20,180,754	20,180,754
		5,662,795	5,566,816	5,278,877	5,374,856	5,470,836	5,278,877	85,037,906	85,037,906
Navy	RI N66604	NUSC NEWPORT TOTAL	3,998,900	3,873,935	3,811,452	3,998,900	3,873,935	60,795,781	60,795,781
Navy	RI D62661	NETC NEWPORT MB	2,349,811	2,276,380	2,239,684	2,349,811	2,276,380	35,724,476	35,724,476
Navy	RI N00124	NWC NEWPORT TOTAL	604,727	585,829	576,380	604,727	585,829	9,193,740	9,193,740
Navy	RI N68086	NRMC NEWPORT TOTAL	301,234	291,820	287,113	301,234	291,820	4,579,692	4,579,692
Navy	RI N68351	NRRC NEWPORT TOTAL	251,236	243,385	239,459	251,236	243,385	3,819,573	3,819,573
		7,505,908	7,271,349	7,154,069	7,505,908	7,271,349	7,388,628	114,113,262	114,113,262
Navy	WA D00620	NAS WHIDBEY ISLAND MB	3,371,104	3,371,104	3,371,104	3,262,358	3,262,358	49,805,338	49,805,338
Navy	WA N68095	NRMC BREMERTON TOTAL	812,867	812,867	812,867	786,646	786,646	12,009,456	12,009,456
Navy	WA N68097	NH WHIDBEY ISLAND TOTAL	234,934	234,934	234,934	227,356	227,356	3,470,962	3,470,962
Navy	WA N00621	NARU WHIDBEY ISLAND TOTAL	87,375	87,375	87,375	84,557	84,557	1,290,900	1,290,900
Navy	WA P68328	NRRC SEATTLE TOTAL	181,169	181,169	181,169	175,325	175,325	2,676,625	2,676,625
Navy	WA N00253	NAVUNDAWANGSTA KEYPORT TOTAL	2,389,907	2,389,907	2,389,907	2,312,813	2,312,813	35,308,942	35,308,942
Navy	WA P00251	NSY PUGET SOUND MB+SHIP	8,213,658	8,213,658	8,213,658	7,948,702	7,948,702	121,350,178	121,350,178
Navy	WA N68437	NTF BREMERTON TOTAL	803,766	803,766	803,766	777,838	777,838	11,874,987	11,874,987
Navy	WA N55639	NISMF BREMERTON TOTAL	58,843	58,843	58,843	56,945	56,945	869,357	869,357
Navy	WA N70273	NRS JIM CREEK OSO TOTAL	34,729,064	34,729,064	34,729,064	33,608,772	33,608,772	513,093,919	513,093,919
Navy	WA N68438	TRIREFFAC BREMERTON TOTAL	991,965	991,965	991,965	959,966	959,966	14,655,487	14,655,487
Navy	WA N63402	SWFPAC BREMERTON TOTAL	1,268,924	1,268,924	1,268,924	1,227,991	1,227,991	18,747,332	18,747,332
Navy	WA P68436	NAVSUBASE BANGOR BREMERTON SHIP TOT	880,073	880,073	880,073	851,683	851,683	13,002,364	13,002,364
Navy	WA D68436	NSB BREMERTON MB	2,142,121	2,142,121	2,142,121	2,073,020	2,073,020	31,648,111	31,648,111
Navy	WA N00406	NSC PUGET SOUND TOTAL	344,517	344,517	344,517	333,403	333,403	5,089,956	5,089,956
		56,510,287	56,510,287	56,510,287	54,687,374	54,687,374	54,687,374	834,893,916	834,893,916

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		2006	2007	2008	2009	2010	2011	NPV	Total (nom)
<b>TOTAL (NAVY)</b>		<b>203,751,682</b>	<b>202,493,408</b>	<b>198,037,217</b>	<b>200,225,193</b>	<b>198,745,801</b>	<b>197,836,589</b>	<b>3,092,307,760</b>	<b>3,092,307,760</b>
USAF AZ	FP4887 LUKE AFB	3,662,057	3,662,057	3,582,447	3,502,837	3,502,837	3,423,227	55,726,959	55,726,959
USAF AZ	FP4877 DAVIS MONTHAN AF	4,320,344	4,320,344	4,226,424	4,132,503	4,132,503	4,038,583	65,744,371	65,744,371
		<b>7,982,402</b>	<b>7,982,402</b>	<b>7,808,871</b>	<b>7,635,341</b>	<b>7,635,341</b>	<b>7,461,810</b>	<b>121,471,329</b>	<b>121,471,329</b>
USAF CA	FP2805 EDWARDS AFB	6,344,595	6,344,595	6,157,989	6,344,595	6,251,292	6,251,292	98,341,223	98,341,223
USAF CA	FY7311 ONIZUKA AFB	1,483,349	1,483,349	1,439,721	1,483,349	1,461,535	1,461,535	22,991,914	22,991,914
USAF CA	EY7396 LOS ANGELES AFS	2,356,262	2,356,262	2,286,960	2,356,262	2,321,611	2,321,611	36,522,057	36,522,057
USAF CA	EY7765 PILLAR POINT AFS	79,360	79,360	77,026	79,360	78,193	78,193	1,230,087	1,230,087
USAF CA	FY9749 POINT ARENA AFS	132,940	132,940	129,030	132,940	130,985	130,985	2,060,570	2,060,570
USAF CA	FP4427 TRAVIS AFB	1,015,675	1,015,675	985,802	1,015,675	1,000,738	1,000,738	15,742,960	15,742,960
USAF CA	FB4610 VANDENBERG AFB	8,604,002	8,604,002	8,350,944	8,604,002	8,477,473	8,477,473	133,362,038	133,362,038
USAF CA	EY9887 SANTA YNEZ PEAK	5,902	5,902	5,728	5,902	5,815	5,815	91,476	91,476
USAF CA	EY1525 ANDERSON PEAK	4,652	4,652	4,515	4,652	4,583	4,583	72,102	72,102
		<b>20,026,737</b>	<b>20,026,737</b>	<b>19,437,716</b>	<b>20,026,737</b>	<b>19,732,226</b>	<b>19,732,226</b>	<b>310,414,428</b>	<b>310,414,428</b>
USAF IL	FP4407 SCOTT AFB	5,074,634	5,192,649	5,192,649	5,074,634	5,074,634	4,956,620	78,125,768	78,125,768
USAF IL	FP6618 O'HARE ARFF	848,594	868,329	868,329	848,594	848,594	828,860	13,064,408	13,064,408
		<b>5,923,229</b>	<b>6,060,978</b>	<b>6,060,978</b>	<b>5,923,229</b>	<b>5,923,229</b>	<b>5,785,479</b>	<b>91,190,176</b>	<b>91,190,176</b>
USAF IN	FP4654 GRISSOM AFB/ARB	1,436,000	1,436,000	1,436,000	1,436,000	1,404,089	1,372,178	22,050,584	22,050,584
USAF MA	FP2835 L G HANSCOM AFB	5,447,086	5,276,865	5,191,754	5,447,086	5,276,865	5,361,975	82,812,729	82,812,729
USAF MA	FP6606 WESTOVER ARB	961,585	931,535	916,510	961,585	931,535	946,560	14,619,092	14,619,092
		<b>6,408,671</b>	<b>6,208,400</b>	<b>6,108,264</b>	<b>6,408,671</b>	<b>6,208,400</b>	<b>6,308,535</b>	<b>97,431,821</b>	<b>97,431,821</b>
USAF MD	FP4425 ANDREWS AFB	4,839,418	4,757,394	4,511,322	4,593,346	4,675,370	4,511,322	72,673,292	72,673,292
USAF MT	FP4626 MALMSTROM AFB	3,984,404	3,984,404	3,984,404	3,855,875	3,855,875	3,855,875	58,866,355	58,866,355
USAF NH	FY7743 NEW BOSTON	456,242	441,984	434,855	456,242	441,984	449,113	6,936,298	6,936,298
USAF NJ	FP4484 MCGUIRE AFB	5,003,863	4,919,052	4,664,618	4,749,429	4,834,240	4,664,618	75,142,754	75,142,754
USAF NJ	FY7994 GIBBSBORO AFS	5,290	5,200	4,931	5,021	5,110	4,931	79,435	79,435
		<b>5,009,153</b>	<b>4,924,252</b>	<b>4,669,549</b>	<b>4,754,450</b>	<b>4,839,351</b>	<b>4,669,549</b>	<b>75,222,189</b>	<b>75,222,189</b>

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		2006	2007	2008	2009	2010	2011	NPV	Total (nom)
USAF NV	FP4852 NELLIS AFB	4,284,745	4,284,745	4,158,723	4,284,745	4,221,734	4,221,734	66,413,552	66,413,552
USAF NY	FP6670 NIAGARA FALLS	434,572	434,572	425,519	407,412	425,519	416,465	6,672,498	6,672,498
		4,719,318	4,719,318	4,584,242	4,692,157	4,647,253	4,638,200	73,086,050	73,086,050
USAF PA	FP6712 PITTSBURGH IAP	347,384	341,496	323,832	329,720	335,608	323,832	5,216,843	5,216,843
USAF PA	FP6637 WILLOW GROVE ARS	534,695	525,632	498,444	507,507	516,570	498,444	8,029,486	8,029,486
		882,079	867,128	822,277	837,227	852,178	822,277	13,246,129	13,246,129
USAF WA	FP4479 MCCHORD AFB	1,400,760	1,400,760	1,400,760	1,355,574	1,355,574	1,355,574	20,695,096	20,695,096
USAF WA	FB4620 FAIRCHILD AFB	1,985,794	1,985,794	1,985,794	1,921,736	1,921,736	1,921,736	29,338,509	29,338,509
		3,386,554	3,386,554	3,386,554	3,277,310	3,277,310	3,277,310	50,033,605	50,033,605
	TOTAL (AIR FORCE)	65,054,205	64,795,551	63,245,033	63,896,585	63,492,606	62,883,874	992,622,257	992,622,257
USMC AZ	K62974 MCAS YUMA MB	2,604,138	2,604,138	2,547,526	2,490,914	2,490,914	2,434,303	39,628,180	39,628,180
USMC CA	K00243 MCRD SAN DIEGO MB	1,069,504	1,069,504	1,038,048	1,069,504	1,053,776	1,053,776	16,577,312	16,577,312
USMC CA	K67399 MCCOMBATCTR 29 PALMS MB	5,107,024	5,107,024	4,956,817	5,107,024	5,031,920	5,031,920	79,158,867	79,158,867
USMC CA	K00681 MCB CAMP PENDLETON MB	7,666,741	7,666,741	7,441,248	7,666,741	7,553,994	7,553,994	118,834,478	118,834,478
USMC CA	K62204 MCLB BARSTOW MB	2,614,269	2,614,269	2,537,379	2,614,269	2,575,824	2,575,824	40,521,169	40,521,169
		16,457,537	16,457,537	15,973,492	16,457,537	16,215,515	16,215,515	255,091,826	255,091,826
	TOTAL (MARINE CORPS)	19,061,675	19,061,675	18,521,018	18,948,451	18,706,429	18,649,817	294,720,006	294,720,006
	TOTAL (ALL SERVICES)	412,039,431	409,402,126	398,487,300	402,028,475	401,490,872	396,902,642	6,257,957,926	6,257,957,926

**APPENDIX A-2.1**

**USAGE AND COST**

**BASELINE -- MILITARY**

**FAMILY HOUSING**

**17-STATE SUBGROUP**

**(SORTED BY SERVICE)**

		FY 1996	Baseline Total Costs (\$)													
			MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Navy	CA	D60530	NWC CHINA LAKE MFH	4,400	313,842	71.33	310,853	310,853	307,864	298,897	295,908	292,919	292,919	283,952	280,963	283,952
Navy	CA	P62583	NCBC PORT HUENEME MFH	4,773	323,893	67.86	320,808	320,808	317,724	308,470	305,385	302,300	302,300	293,046	289,961	293,046
Navy	CA	D63126	PMTC POINT MUGU MFH	6,941	470,087	67.73	465,610	465,610	461,133	447,702	443,225	438,748	438,748	425,317	420,840	425,317
Navy	CA	D60259	NAS MIRAMAR MFH	1,147	89,747	78.24	88,892	88,892	88,038	85,473	84,619	83,764	83,764	81,200	80,345	81,200
Navy	CA	P63387	PWC SAN DIEGO MFH	63,294	4,652,177	73.50	4,607,871	4,607,871	4,563,564	4,430,645	4,386,338	4,342,032	4,342,032	4,209,113	4,164,806	4,209,113
Navy	CA	D60042	NAF EL CENTRO MFH	664	47,683	71.81	47,229	47,229	46,775	45,412	44,958	44,504	44,504	43,142	42,688	43,142
Navy	CA	P60036	NWS CONCORD MFH	2,813	289,802	103.02	287,042	287,042	284,282	276,002	273,242	270,482	270,482	262,202	259,442	262,202
Navy	CA	D00396	NWS SEAL BEACH DET FALLBROOK	12	1,964	163.67	1,945	1,945	1,927	1,870	1,852	1,833	1,833	1,777	1,758	1,777
Navy	CA	D60701	NWS SEAL BEACH MFH	56	7,166	127.79	7,088	7,088	7,020	6,815	6,747	6,679	6,679	6,474	6,406	6,474
Navy	CA	D62271	NPGS MONTEREY MFH	5,855	388,560	66.36	384,859	384,859	381,159	370,057	366,357	362,656	362,656	351,554	347,854	351,554
				89,955	6,584,911	73.20	6,522,198	6,522,198	6,459,484	6,271,344	6,208,630	6,145,917	6,145,917	5,957,777	5,895,063	5,957,777
Navy	CT	B00129	NAV SUBASE NEW LONDON MFH	8,363	535,644	64.05	529,416	523,187	523,187	523,187	510,730	504,502	504,502	492,045	498,273	485,817
Navy	IL	D65113	PWC GREAT LAKES MFH	23,902	774,536	32.40	774,536	774,536	784,595	784,595	774,536	764,477	774,536	764,477	744,359	754,418
Navy	IN	D00164	NWSC CRANE MFH	698	25,372	36.35	24,730	24,409	24,409	24,087	24,087	23,766	23,445	23,124	23,124	23,124
Navy	MD	D0417A	NSF THURMONT MFH	549	35,587	64.82	34,778	34,374	34,374	34,374	33,969	33,969	33,565	32,756	33,161	33,161
Navy	MD	D00174	NOS INDIAN HEAD MFH	2,871	193,704	67.47	189,302	187,100	187,100	187,100	184,899	184,899	182,698	178,296	180,497	180,497
Navy	MD	D00161	USNA ANNAPOLIS MFH	6,160	372,056	60.40	363,600	359,372	359,372	359,372	355,144	355,144	350,916	342,461	346,689	346,689
Navy	MD	D00421	NATC PATUXENT RIVER MFH	14,476	744,466	51.43	727,546	719,086	719,086	719,086	710,627	710,627	702,167	685,247	693,707	693,707
Navy	MD	D61533	NSRDC ANNAPOLIS MFH	387	21,757	56.22	21,263	21,015	21,015	21,015	20,768	20,768	20,521	20,026	20,274	20,274
				24,443	1,367,570	55.95	1,336,489	1,320,948	1,320,948	1,320,948	1,305,408	1,305,408	1,289,867	1,258,786	1,274,327	1,274,327
Navy	ME	D00702	NSGA WINTER HARBOR MFH	1,660	165,216	99.53	163,295	161,374	161,374	161,374	157,532	155,610	155,610	151,768	153,689	149,847
Navy																

FY 1996	Baseline Total Costs (\$)
1996	1996

		FY 1996		Baseline Total Costs (\$)													
		MMW	\$	MMW	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007		
Navy	PA	D00158	NAS WILLOW GROVE MFH	4,047	301,430	74.48	294,579	291,154	291,154	287,729	287,729	284,303	277,453	277,453	280,878	280,878	
Navy	PA	D00104	SPCC MECHANICSBURG MFH	1,226	72,074	58.79	70,436	69,617	69,617	68,798	68,798	67,979	66,341	66,341	67,160	67,160	
		5,273	373,504	70.83	365,015	360,771	360,771	360,771	356,527	356,527	352,282	343,793	343,793	343,793	348,038	348,038	
Navy	RI	D62661	NETC NEWPORT MFH	11,258	1,171,267	104.04	1,157,648	1,144,028	1,144,028	1,116,789	1,103,170	1,103,170	1,089,551	1,075,931	1,089,551	1,062,312	
Navy	WA	P00251	NSY PUGET SOUND MFH	9,308	667,875	71.75	727,242	756,925	831,133	816,292	816,292	831,133	816,292	816,292	816,292	801,450	
Navy	WA	D00620	NAS WHIDBEY ISLAND MFH	22,850	1,551,207	67.89	1,689,092	1,758,035	1,930,391	1,895,920	1,895,920	1,930,391	1,930,391	1,895,920	1,895,920	1,861,448	
Navy	WA	D68436	NSB BREMERTON MFH	24,352	852,472	35.01	928,247	966,135	1,060,854	1,041,910	1,041,910	1,060,854	1,060,854	1,041,910	1,041,910	1,022,966	
		56,510	3,071,554	54.35	3,344,581	3,481,095	3,822,378	3,754,122	3,754,122	3,754,122	3,754,122	3,822,378	3,822,378	3,754,122	3,754,122	3,685,965	
TOTAL (NAVY)				247,923	16,706,494		16,812,058	16,879,100	17,165,465	16,901,952	16,721,306	16,609,489	16,654,792	16,552,950	16,242,919	16,226,974	16,160,837
USAF	AZ	RP4877	DAVIS MONTHAN AF	20,453	1,456,924	71.23	1,418,584	1,399,414	1,399,414	1,380,244	1,380,244	1,361,074	1,341,904	1,361,074	1,341,904	1,322,734	
USAF	AZ	RP4887	LUKE AFB	13,531	798,692	59.03	777,674	767,165	767,165	756,656	756,656	746,146	735,637	746,146	735,637	725,128	
		33,984	2,255,616	66.37	2,196,258	2,166,579	2,166,579	2,166,579	2,136,899	2,136,899	2,107,220	2,107,220	2,077,541	2,107,220	2,077,541	2,047,862	
USAF	CA	RP4427	TRAVIS AFB	14,034	788,252	56.17	780,745	780,745	773,238	743,209	735,702	735,702	735,702	713,180	705,673	713,180	
USAF	CA	RY7396	LOS ANGELES AFS	3,264	258,845	79.30	256,380	256,380	253,915	246,519	244,054	241,589	241,589	234,193	231,728	234,193	
USAF	CA	RP2805	EDWARDS AFB	19,707	986,349	49.04	957,146	957,146	947,942	920,332	911,129	901,926	901,926	874,316	865,112	874,316	
USAF	CA	RY9749	POINT ARENA AFS	548	49,528	90.44	49,056	49,056	48,585	47,170	46,698	46,226	46,226	44,811	44,339	44,811	
USAF	CA	RB4610	VANDENBERG AFB	9,057	490,282	54.13	485,613	485,613	480,943	466,935	462,266	457,597	457,597	443,588	438,919	443,588	
		46,610	2,553,256	54.78	2,528,939	2,528,939	2,528,939	2,504,623	2,431,672	2,407,356	2,383,039	2,383,039	2,383,039	2,310,089	2,285,772	2,310,089	
USAF	IL	RP4407	SCOTT AFB	31,987	1,683,027	52.78	1,683,027	1,683,027	1,704,884	1,683,027	1,661,170	1,683,027	1,683,027	1,661,170	1,617,455	1,639,312	
USAF	MA	RP2835	L G HANSCOM AFB	9,206	847,210	92.03	837,359	827,507	827,507	807,805	797,954	797,954	788,102	778,251	788,102	768,400	
USAF	MD	RP4425	ANDREWS AFB	56,523	2,254,621	39.89	2,203,380	2,177,759	2,177,759	2,152,138	2,152,138	2,126,518	2,075,276	2,075,276	2,100,897	2,100,897	
USAF	MT	RP4626	MALMSTROM AFB	14,473	575,514	39.76	626,671	652,249	716,195	703,406	703,406	716,195	716,195	703,406	703,406	690,617	
USAF	NJ	RP4484	MCGUIRE AFB	20,560	1,752,981	85.26	1,713,141	1,693,220	1,693,220	1,673,300	1,673,300	1,653,380	1,613,539	1,613,539	1,633,460	1,633,460	
USAF	NV	RP4852	NELLIS AFB	23,166	1,241,651	53.60	1,229,826	1,229,826	1,218,001	1,182,625	1,170,700	1,158,874	1,158,874	1,123,399	1,111,573	1,123,399	



DOD Electric Power Usage and Costs Baseline  
Group of 17 - Military Family Housing Only

		FY 1996		Baseline Total Costs (\$)												
		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
USAF	WA	RB4620	FAIRCHILD AFB	14,241	519,361	36.47	565,526	588,609	646,316	634,775	634,775	646,316	634,775	634,775	623,233	
	WA	RP4479	MCCHORD AFB	38,526	1,030,318	26.74	1,121,902	1,167,694	1,282,174	1,259,278	1,259,278	1,282,174	1,259,278	1,259,278	1,236,382	
				52,766	1,549,679	29.37	1,687,428	1,756,303	1,928,489	1,894,052	1,894,052	1,928,489	1,894,052	1,894,052	1,859,615	
			TOTAL (AIR FORCE)	289,176	14,713,555		14,706,028	14,715,409	14,937,257	14,751,926	14,628,683	14,554,696	14,424,084	14,266,402	14,173,649	
USMC	AZ	K62974	MCAS YUMA MFH	12,207	876,354	71.79	853,292	841,761	841,761	830,230	818,699	818,699	807,168	818,699	795,637	
USMC	CA	K00243	MCRD SAN DIEGO MFH	68	5,988	88.06	5,931	5,931	5,874	5,703	5,646	5,589	5,589	5,418	5,418	
USMC	CA	K00681	MCB CAMP PENDLETON MFH	33,134	3,001,978	90.60	2,973,388	2,973,388	2,944,797	2,859,027	2,830,436	2,801,846	2,801,846	2,716,075	2,716,075	
USMC	CA	K62204	MCLB BARSTOW MFH	1,940	232,782	119.99	230,565	230,565	228,348	221,697	219,480	217,263	217,263	210,612	210,612	
USMC	CA	K67399	MCCOMBATCTR 29 PALMS MFH	21,243	1,820,988	85.72	1,803,645	1,803,645	1,786,303	1,734,274	1,716,932	1,699,589	1,699,589	1,647,561	1,647,561	
				56,385	5,061,736	89.77	5,013,529	5,013,529	4,965,322	4,820,701	4,772,494	4,724,287	4,724,287	4,579,666	4,579,666	
			TOTAL (MARINE CORPS)	68,592	5,938,090		5,866,821	5,855,290	5,807,083	5,650,931	5,602,724	5,542,986	5,531,455	5,398,365	5,375,303	
			TOTAL (ALL SERVICES)	605,691	37,358,139		37,384,907	37,449,800	37,909,805	37,304,809	36,952,713	36,683,628	36,752,474	36,508,488	35,907,686	35,709,789

DOD Electric Power Usage and Costs Baseline  
Group of 17 - Military Family Housing Only

		2008	2009	2010	2011	Total	NPV
Navy	CA D60530	277,974	280,963	277,974	280,963	4,369,876	3,259,481
Navy	CA P62583	286,877	289,961	286,877	289,961	4,509,824	3,363,868
Navy	CA D63126	416,363	420,840	416,363	420,840	6,545,402	4,882,201
Navy	CA D60259	79,490	80,345	79,490	80,345	1,249,620	932,089
Navy	CA P63387	4,120,500	4,164,806	4,120,500	4,164,806	64,776,026	48,316,295
Navy	CA D60042	42,234	42,688	42,234	42,688	663,929	495,223
Navy	CA P60036	256,682	259,442	256,682	259,442	4,035,148	3,009,808
Navy	CA D00396	1,740	1,758	1,740	1,758	27,346	20,398
Navy	CA D60701	6,338	6,406	6,338	6,406	99,639	74,320
Navy	CA D62271	344,153	347,854	344,153	347,854	5,410,235	4,035,483
		<b>5,832,350</b>	<b>5,895,063</b>	<b>5,832,350</b>	<b>5,895,063</b>	<b>91,687,046</b>	<b>68,389,166</b>
Navy	CT B00129	479,588	488,273	485,817	492,045	7,548,843	5,621,524
Navy	IL D65113	754,418	754,418	734,300	724,241	11,436,980	8,504,851
Navy	IN D00164	23,124	22,803	22,803	22,482	352,960	262,841
Navy	MD D0417A	31,139	31,543	31,947	31,139	497,005	370,459
Navy	MD D00174	169,491	171,692	173,893	169,491	2,705,252	2,016,450
Navy	MD D00161	325,549	329,777	334,005	325,549	5,196,100	3,873,086
Navy	MD D00421	651,408	659,868	668,327	651,408	10,397,144	7,749,858
Navy	MD D61533	19,037	19,285	19,532	19,037	303,856	226,489
		<b>1,196,624</b>	<b>1,212,164</b>	<b>1,227,705</b>	<b>1,196,624</b>	<b>19,099,358</b>	<b>14,236,343</b>
Navy	ME D00702	147,926	153,689	149,847	151,768	2,328,393	1,733,924
Navy	ME D60087	742,562	771,493	752,206	761,949	11,688,119	8,703,989
Navy	ME D63038	43,262	44,948	43,824	44,386	680,961	507,103
		<b>933,750</b>	<b>970,130</b>	<b>945,877</b>	<b>958,004</b>	<b>14,697,473</b>	<b>10,945,015</b>
Navy	NH D00102	345,303	358,756	349,787	354,272	5,435,158	4,047,490
Navy	NJ B60478	445,092	450,873	456,653	445,092	7,104,137	5,295,305
Navy	NJ D68335	548,721	555,847	562,974	548,721	8,758,161	6,528,187
		<b>993,814</b>	<b>1,006,720</b>	<b>1,019,627</b>	<b>993,814</b>	<b>15,862,298</b>	<b>11,823,492</b>
Navy	NV D60495	210,619	212,884	210,619	212,884	3,311,026	2,469,687

DOD Electric Power Usage and Costs Baseline  
Group of 17 - Military Family Housing Only

			2008	2009	2010	2011	Total	NPV	
Navy	PA	D00158	NAS WILLOW GROVE MFH	263,751	267,177	270,602	263,751	4,209,744	3,137,873
Navy	PA	D00104	SPCC MECHANICSBURG MFH	63,065	63,884	64,703	63,065	1,006,579	750,287
			326,816	331,060	335,305	326,816	5,216,323	3,888,160	
Navy	RI	D62661	NETC NEWPORT MFH	1,048,693	1,089,551	1,062,312	1,075,931	16,506,693	12,292,317
Navy	WA	P00251	NSY PUGET SOUND MFH	801,450	801,450	801,450	786,608	12,051,433	8,917,774
Navy	WA	D00620	NAS WHIDBEY ISLAND MFH	1,861,448	1,861,448	1,861,448	1,826,977	27,990,669	20,712,429
Navy	WA	D68436	NSB BREMERTON MFH	1,022,966	1,022,966	1,022,966	1,004,023	15,382,384	11,382,598
			3,685,865	3,685,865	3,685,865	3,617,608	55,424,486	41,012,802	
TOTAL (NAVY)				15,830,963	16,037,689	15,912,366	15,869,783	246,578,644	183,493,688
USAF	AZ	RP4877	DAVIS MONTHAN AF	1,303,564	1,284,394	1,303,564	1,265,223	20,224,406	15,069,649
USAF	AZ	RP4887	LUKE AFB	714,619	704,110	714,619	693,601	11,087,106	8,261,247
			2,018,183	1,988,504	2,018,183	1,958,824	31,311,512	23,330,896	
USAF	CA	RP4427	TRAVIS AFB	698,166	705,673	698,166	705,673	10,975,471	8,186,579
USAF	CA	RY7396	LOS ANGELES AFS	229,263	231,728	229,263	231,728	3,604,108	2,688,297
USAF	CA	RP2805	EDWARDS AFB	855,909	865,112	855,909	865,112	13,455,259	10,036,248
USAF	CA	RY9749	POINT ARENA AFS	43,868	44,339	43,868	44,339	689,618	514,385
USAF	CA	RB4610	VANDENBERG AFB	434,250	438,919	434,250	438,919	6,826,593	5,091,941
			2,261,455	2,285,772	2,261,455	2,285,772	35,551,050	26,517,450	
USAF	IL	RP4407	SCOTT AFB	1,639,312	1,639,312	1,595,597	1,573,740	24,851,970	18,480,605
USAF	MA	RP2835	L G HANSCOM AFB	758,548	788,102	768,400	778,251	11,939,750	8,891,375
USAF	MD	RP4425	ANDREWS AFB	1,972,793	1,998,414	2,024,035	1,972,793	31,487,832	23,470,504
USAF	MT	RP4626	MALMSTROM AFB	690,617	690,617	690,617	677,828	10,384,830	7,684,528
USAF	NJ	RP4484	MCGUIRE AFB	1,533,858	1,553,779	1,573,699	1,533,858	24,481,973	18,248,454
USAF	NV	RP4852	NELLIS AFB	1,099,748	1,111,573	1,099,748	1,111,573	17,288,512	12,895,463

DOD Electric Power Usage and Costs Baseline  
Group of 17 - Military Family Housing Only

			2008	2009	2010	2011	Total	NPV
USAF	WA	RB4620 FAIRCHILD AFB	623,233	623,233	623,233	611,692	9,371,581	6,934,747
USAF	WA	RP4479 MCCHORD AFB	1,236,382	1,236,382	1,236,382	1,213,486	18,591,516	13,757,280
			1,859,615	1,859,615	1,859,615	1,825,177	27,963,097	20,692,027
TOTAL (AIR FORCE)			13,834,130	13,915,688	13,891,348	13,717,817	215,260,526	160,211,302
USMC	AZ	K62974 MCAS YUMA MFH	784,106	772,575	784,106	761,044	12,165,177	9,064,541
USMC	CA	K00243 MCRD SAN DIEGO MFH	5,304	5,361	5,304	5,361	83,376	62,190
USMC	CA	K00681 MCB CAMP PENDLETON MFH	2,658,895	2,687,485	2,658,895	2,687,485	41,798,970	31,177,760
USMC	CA	K62204 MCLB BARSTOW MFH	206,178	208,395	206,178	208,395	3,241,212	2,417,613
USMC	CA	K67399 MCCOMBATCTR 29 PALMS MFH	1,612,875	1,630,218	1,612,875	1,630,218	25,355,090	18,912,306
			4,483,252	4,531,459	4,483,252	4,531,459	70,478,648	52,569,868
TOTAL (MARINE CORPS)			5,267,358	5,304,034	5,267,358	5,292,503	82,643,825	61,634,409
TOTAL (ALL SERVICES)			34,932,451	35,257,410	35,071,073	34,880,104	544,482,996	405,339,400

## **APPENDIX A-3.1**

### **USAGE AND COST**

#### **BASELINE -- MAIN BASE**

#### **31-STATE SUBGROUP**

#### **(SORTED BY SERVICE)**

DOD Electric Power Usage and Cost Baseline  
Group of 31 - Main Base Only

		Total Baseline Cost (\$)																
		FY 1996																
		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005					
Amy	AL	NA	FT RUCKER	131,966	5,301,946	40.18	5,184,125	5,184,125	5,301,946	5,301,946	5,184,125	5,066,304	4,948,483					
Amy	AL	NA	ANNISTON AD	68,258	2,851,644	41.78	2,788,274	2,788,274	2,851,644	2,851,644	2,788,274	2,724,904	2,661,534					
Amy	AL	NA	REDSTONE Ars	407,407	21,443,769	52.63	20,967,241	20,967,241	21,443,769	21,443,769	20,967,241	20,490,713	20,014,184					
				607,631	29,597,359	48.71	28,939,640	28,939,640	29,597,359	29,597,359	28,939,640	28,281,921	27,624,202					
Amy	AR	NA	PINE BLUFF Ars	24,287	1,442,995	59.41	1,412,933	1,412,933	1,382,870	1,382,870	1,352,808	1,322,745	1,322,745					
Amy	CO	NA	PUEBLO AD	776	85,274	109.89	83,602	81,930	80,258	80,258	78,586	78,586	78,586					
Amy	CO	NA	FT CARSON	102,645	4,426,741	43.13	4,339,942	4,253,143	4,166,344	4,166,344	4,079,546	4,079,546	4,079,546					
				103,421	4,512,015	43.63	4,423,544	4,335,073	4,246,602	4,246,602	4,158,131	4,158,131	4,158,131					
Amy	DC	NA	WALTER REED AMC	131,063	8,023,346	61.22	7,862,879	7,702,412	7,702,412	7,541,945	7,541,945	7,381,478	7,221,011					
Amy	GA	NA	HUNTER AAF	50,750	2,456,620	48.41	2,402,028	2,402,028	2,456,620	2,456,620	2,402,028	2,347,437	2,292,845					
Amy	GA	NA	FT MCPHERSON	57,119	2,885,639	50.52	2,821,514	2,821,514	2,885,639	2,885,639	2,821,514	2,757,388	2,693,263					
Amy	GA	NA	FT BENNING	225,399	10,528,667	46.71	10,294,697	10,294,697	10,528,667	10,528,667	10,294,697	10,060,726	9,826,756					
Amy	GA	NA	FT GORDON	128,177	6,460,423	50.40	6,316,858	6,316,858	6,460,423	6,460,423	6,316,858	6,173,293	6,029,728					
Amy	GA	NA	FT STEWART	158,054	7,512,719	47.53	7,345,770	7,345,770	7,512,719	7,512,719	7,345,770	7,178,820	7,011,871					
				619,499	29,844,068	48.17	29,180,866	29,180,866	29,844,068	29,844,068	29,180,866	28,517,665	27,854,463					
Amy	KS	NA	FT RILEY	150,150	6,699,902	44.62	6,560,321	6,560,321	6,420,739	6,420,739	6,281,158	6,141,577	6,141,577					
Amy	KS	NA	FT LEAVENWORTH	91,709	4,061,438	44.29	3,976,825	3,976,825	3,892,211	3,892,211	3,807,598	3,722,985	3,722,985					
				241,859	10,761,340	44.49	10,537,145	10,537,145	10,312,951	10,312,951	10,088,756	9,864,562	9,864,562					
Amy	KY	NA	FT KNOX	221,405	7,176,175	32.41	7,032,652	6,889,128	6,889,128	6,745,605	6,745,605	6,602,081	6,458,558					
Amy	KY	NA	BLUE GRASS AD	8,070	279,634	34.65	274,041	268,449	268,449	262,856	262,856	257,263	251,671					
Amy	KY	NA	FT CAMPBELL	252,775	12,082,205	47.80	11,840,561	11,598,917	11,598,917	11,357,273	11,357,273	11,115,629	10,873,985					
				482,250	19,538,014	40.51	19,147,254	18,756,493	18,756,493	18,365,733	18,365,733	17,974,973	17,584,213					
Amy	LA	NA	FT POLK	193,064	10,396,343	53.85	10,179,753	10,179,753	9,963,162	9,963,162	9,746,572	9,529,981	9,529,981					
Amy	MO	NA	AVIATION/TP CMD	1,786	94,815	53.09	92,708	94,815	94,815	94,815	94,815	94,815	92,708					
Amy	MO	NA	LAKE CITY AAP	43,014	2,334,226	54.27	2,282,354	2,334,226	2,334,226	2,334,226	2,334,226	2,334,226	2,282,354					
Amy	MO	NA	FT LEONARD WOOD	71,954	4,425,181	61.50	4,326,844	4,425,181	4,425,181	4,425,181	4,425,181	4,425,181	4,326,844					
				116,754	6,854,222	58.71	6,701,906	6,854,222	6,854,222	6,854,222	6,854,222	6,854,222	6,701,906					
Amy	MS	NA	MISSISSIPPI AAP	9,443	440,134	46.61	430,353	430,353	440,134	440,134	430,353	420,572	410,792					

FY 1996	Total Baseline Cost (\$)
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				Total Baseline Cost (\$)													
				FY 1996	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005		
MWh																	

## DOD Electric Power Usage and Cost Baseline

Group of 31 - Main Base Only

		Total Baseline Cost (\$)														
		FY 1996														
		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005			
Army	VA	NA	FT LEE		95,150	3,406,771	35.80	3,331,065	3,331,065	3,406,771	3,406,771	3,331,065	3,255,359	3,179,653		
	VA	NA	FT MYER		50,997	1,663,050	32.61	1,626,093	1,626,093	1,663,050	1,663,050	1,589,137	1,589,137	1,552,180		
	VA	NA	FT A P HILL		11,791	762,518	64.67	745,573	745,573	762,518	745,573	728,628	728,628	711,683		
					541,933	22,558,366	41.63	22,057,069	22,057,069	22,558,366	22,057,069	21,555,772	21,555,772	21,054,475		
Army	WI	NA	FT MCCOY		27,625	1,092,071	39.53	1,067,803	1,092,071	1,092,071	1,092,071	1,092,071	1,092,071	1,067,803		
TOTAL (ARMY)					4,874,084	234,875,983		228,512,399	227,111,730	229,378,973	229,152,132	227,663,730	224,456,761	220,620,457	219,988,230	215,837,353
Navy	AL	N68085	NSPASURSTA WETUMPKA TOTAL		999	53,264	53.32	52,080	52,080	53,264	53,264	53,264	52,080	50,897	50,897	49,713
	AR	N68083	NSPASURSTA LEWISVILLE TOTAL		224	14,406	64.31	14,106	14,106	13,806	13,806	13,806	13,506	13,506	13,206	13,206
	DC	N62285	NAVOBSERV TOTAL		5,097	380,377	74.63	372,769	365,162	365,162	365,162	357,554	349,947	349,947	342,339	342,339
	DC	D00173	NRL WASHINGTON MB		300,060	10,289,028	34.29	10,083,247	9,877,467	9,877,467	9,877,467	9,671,686	9,465,906	9,465,906	9,260,125	9,260,125
Navy	DC	N00171	ND WASHINGTON DC TOTAL		85,214	5,435,944	63.79	5,327,225	5,218,506	5,218,506	5,218,506	5,109,787	5,001,068	5,001,068	4,892,350	4,892,350
Navy	DC	N68306	NRRC WASHINGTON TOTAL		2,605	193,407	74.24	189,539	185,671	185,671	185,671	181,803	177,934	177,934	174,066	174,066
					392,976	16,298,756	41.48	15,972,781	15,646,806	15,646,806	15,320,831	14,994,856	14,994,856	14,668,880	14,668,880	
Navy	FL	N63082	NTTC PENSACOLA TOTAL		30,529	1,356,475	44.43	1,380,273	1,380,273	1,380,273	1,356,475	1,356,475	1,332,677	1,332,677	1,308,879	1,308,879
Navy	FL	N0463A	NAVXIDINGV PANAMA CITY TOTAL		3,121	137,360	44.01	139,770	139,770	139,770	137,360	137,360	134,950	134,950	132,540	132,540
Navy	FL	B61331	NAVCOASTSYSCEN PANAMA CITY TOTAL		219	7,865	35.91	8,003	8,003	8,003	7,865	7,865	7,727	7,727	7,589	7,589
Navy	FL	N00203	NARMC PENSACOLA TOTAL		15,769	692,059	43.89	704,200	704,200	704,200	692,059	692,059	679,918	679,918	667,776	667,776
Navy	FL	D00207	NAS JACKSONVILLE MB		73,151	3,634,915	49.69	3,698,685	3,698,685	3,698,685	3,634,915	3,634,915	3,571,145	3,571,145	3,507,374	3,507,374
Navy	FL	N65492	NRMC ORLANDO TOTAL		533	27,060	50.77	27,535	27,535	27,535	27,060	27,060	26,585	26,585	26,111	26,111
Navy	FL	N61339	NTEC ORLANDO TOTAL		6,497	345,352	53.16	351,411	351,411	351,411	345,352	345,352	339,293	339,293	333,234	333,234
Navy	FL	B60201	NS MAYPORT TOTAL		146,400	7,269,418	49.65	7,396,952	7,396,952	7,396,952	7,269,418	7,269,418	7,141,884	7,141,884	7,014,351	7,014,351
Navy	FL	N62670	SUPSHIP JACKSONVILLE TOTAL		1,083	51,512	47.56	52,416	52,416	52,416	51,512	51,512	50,608	50,608	49,705	49,705
Navy	FL	N63099	NARU JACKSONVILLE TOTAL		3,548	168,910	47.61	171,873	171,873	171,873	168,910	168,910	165,947	165,947	162,983	162,983
Navy	FL	N0610A	NAVDIVSALVTACEN PANAMA CITY TOTAL		3,591	176,742	49.22	179,843	179,843	179,843	176,742	176,742	173,641	173,641	170,541	170,541
Navy	FL	N32779	SIMA NAS MAYPORT TOTAL		1,239	69,186	55.84	70,400	70,400	70,400	69,186	69,186	67,972	67,972	66,758	66,758
Navy	FL	N39142	NRTF SADDLEBUNCH KEYS TOTAL		1,228	107,182	87.28	109,062	109,062	109,062	107,182	107,182	105,302	105,302	103,421	103,421
Navy	FL	N00267	NRMC KEY WEST TOTAL		1,224	119,755	97.84	121,856	121,856	121,856	119,755	119,755	117,654	117,654	115,553	115,553
Navy	FL	N63425	NCU KEY WEST TOTAL		607	59,434	97.91	60,477	60,477	60,477	59,434	59,434	58,391	58,391	57,349	57,349
Navy	FL	D00213	NAS KEY WEST MB		40,905	3,391,314	82.91	3,450,811	3,450,811	3,450,811	3,391,314	3,391,314	3,331,817	3,331,817	3,272,321	3,272,321
Navy	FL	N32575	NCB MAYPORT TOTAL		363	20,271	55.84	20,627	20,627	20,627	20,271	20,271	19,915	19,915	19,560	19,560



		FY 1996		Total Baseline Cost (\$)											
		MWt	\$	\$/MWt	1997	1998	1999	2000	2001	2002	2003	2004	2005		
Navy	FL	N62701			NSWC FORT LAUDERDALE TOTAL	1,080	64,800	60.00	65,937	65,937	64,800	64,800	63,663	62,526	62,526
Navy	FL	N68358			NRRC JACKSONVILLE TOTAL	4,376	301,032	68.79	306,313	306,313	301,032	301,032	295,751	290,469	290,469
Navy	FL	N68836			NSC JACKSONVILLE TOTAL	3,099	147,271	47.52	149,855	149,855	147,271	147,271	144,687	142,104	142,104
Navy	FL	N66452			NAVAEROMEDRSCHLAB PENSACOLA TOTAL	2,468	111,783	45.29	113,744	113,744	111,783	111,783	109,822	107,861	107,861
Navy	FL	N65889			NARF PENSACOLA TOTAL	19,638	890,916	45.37	906,546	906,546	890,916	890,916	875,286	859,656	859,656
Navy	FL	N68860			NSC PENSACOLA TOTAL	517	24,182	46.77	24,606	24,606	24,182	24,182	23,758	23,334	23,334
Navy	FL	N68142			NAS PENSACOLA TOTAL	109,562	4,947,185	45.15	5,033,978	5,033,978	4,947,185	4,947,185	4,860,392	4,773,600	4,773,600
Navy	FL	B00204			PWC PENSACOLA MB-SHIP	13,492	605,302	44.86	615,921	615,921	605,302	605,302	594,683	584,063	584,063
Navy	FL	N68441			NRDC PENSACOLA TOTAL	896	40,239	44.91	40,945	40,945	40,239	40,239	39,533	38,827	38,827
Navy	FL	N0751A			NAMI NAS PENSACOLA TOTAL	2,930	131,986	45.05	134,302	134,302	131,986	131,986	129,670	127,355	127,355
Navy	FL	D61331			NCSC PANAMA CITY MB	24,151	1,138,573	47.14	1,158,548	1,158,548	1,138,573	1,138,573	1,118,598	1,098,623	1,098,623
Navy	FL	N00232			NRMC JACKSONVILLE TOTAL	19,137	908,904	47.49	924,850	924,850	908,904	908,904	892,958	877,013	877,013
Navy	FL	N65560			NARDAC JACKSONVILLE TOTAL	12,127	576,014	47.50	586,120	586,120	576,014	576,014	565,908	555,803	555,803
Navy	FL	N10151			FTC MAYPORT TOTAL	1,846	87,706	47.51	89,245	89,245	87,706	87,706	86,167	84,629	84,629
Navy	FL	N65886			NARF JACKSONVILLE TOTAL	58,455	2,776,214	47.49	2,824,920	2,824,920	2,776,214	2,776,214	2,727,508	2,678,803	2,678,803
Navy	FL	N68734			NAVCOMSTA JACKSONVILLE TOTAL	1,496	70,720	47.27	71,961	71,961	70,720	70,720	69,479	68,239	68,239
Navy	FL	D60508			NAS WHITING FIELD MB	25,861	1,223,123	47.30	1,244,581	1,244,581	1,223,123	1,223,123	1,201,665	1,180,206	1,180,206
Navy	FL	N68322			NETPDC ELLYSON FIELD PENSACOLA TOTAL	15,706	743,919	47.37	756,970	756,970	743,919	743,919	730,868	717,817	717,817
						646,844	32,424,679	50.13	32,993,533	32,993,533	32,424,679	32,424,679	31,855,825	31,286,971	31,286,971
Navy	GA	B42237			NAVSUBASE KINGS BAY MB-SHIP	78,884	2,522,089	31.97	2,466,043	2,466,043	2,522,089	2,522,089	2,409,996	2,353,950	2,353,950
Navy	GA	N44466			TRIREFAC KINGS BAY TOTAL	33,880	1,082,892	31.96	1,058,828	1,058,828	1,082,892	1,082,892	1,034,763	1,010,699	1,010,699
Navy	GA	N68733			SWFATLANT KINGSBURY TOTAL	58,992	1,885,223	31.96	1,843,329	1,843,329	1,885,223	1,885,223	1,801,435	1,759,541	1,759,541
Navy	GA	D00196			NAS ATLANTA MB	9,117	502,966	55.17	491,789	491,789	502,966	502,966	480,612	469,435	469,435
Navy	GA	N60087			NSPASURSTA SAVANNAH TOTAL	164	12,901	78.66	12,614	12,614	12,901	12,901</			

DOD Electric Power Usage and Cost Baseline  
Group of 31 - Main Base Only

		FY 1996	Total Baseline Cost (\$)						2001	2002	2003	2004	2005
			MWh	\$	\$/MWh	1997	1998	1999					
			68,882	4,053,885	58.85	3,969,429	3,969,429	3,884,973	3,884,973	3,800,517	3,800,517	3,716,061	3,716,061
Navy	MI N91192	NIROP MINNEAPOLIS TOTAL	31,304	1,415,362	45.21	1,415,362	1,381,663	1,347,964	1,314,265	1,280,566	1,280,566	1,280,566	1,280,566
Navy	MI N30315	NASTROGR DET BRAVO ROSEMOUNT TOTAL	599	53,916	90.01	53,916	52,632	51,349	50,065	48,781	48,781	48,781	48,781
Navy	MI N68349	NRRC MINNEAPOLIS TOTAL	4,252	271,226	63.79	271,226	264,768	258,310	251,853	245,395	245,395	245,395	245,395
			36,155	1,740,504	48.14	1,740,504	1,699,063	1,657,623	1,616,182	1,574,742	1,574,742	1,574,742	1,574,742
Navy	MS D62604	NCBC GULFPORT MB	25,699	1,147,832	44.66	1,122,325	1,122,325	1,147,832	1,147,832	1,122,325	1,096,817	1,071,310	1,071,310
Navy	MS N62795	SHIPBUILDING C&R PASCAGOULA TOTAL	3,373	203,987	60.48	199,454	199,454	203,987	203,987	199,454	194,921	190,388	190,388
Navy	MS N66084	NSPASURSTA HILLANDALE TOTAL	182	13,111	72.04	12,820	12,820	13,111	13,111	12,820	12,528	12,237	12,237
Navy	MS D63043	NAS MERIDIAN MB	31,289	1,683,943	53.82	1,646,522	1,646,522	1,683,943	1,683,943	1,646,522	1,609,101	1,571,680	1,571,680
			60,543	3,048,873	50.36	2,981,120	2,981,120	3,048,873	3,048,873	2,981,120	2,913,368	2,845,615	2,845,615
Navy	NC N68093	NRMC CAMP LEJEUNE TOTAL	14,717	938,788	63.79	917,926	917,926	938,788	938,788	917,926	897,064	876,202	876,202
Navy	NC N65923	NARF CHERRY POINT TOTAL	85,868	5,801,922	67.57	5,672,990	5,672,990	5,801,922	5,801,922	5,672,990	5,544,059	5,415,127	5,415,127
			100,585	6,740,710	67.02	6,590,916	6,590,916	6,740,710	6,740,710	6,590,916	6,441,123	6,291,329	6,291,329
Navy	NM N61762	NAVORDMISTESTSTA WHITE SANDS TOTAL	3,597	302,066	83.98	296,143	290,220	290,220	284,297	278,375	278,375	278,375	278,375
Navy	NM N65081	NSPASURSTA TRUTH OR CONSEQUENCES TOT	182	18,421	101.21	18,060	17,699	17,699	17,337	16,976	16,976	16,976	16,976
			3,779	320,487	84.81	314,203	307,919	307,919	301,635	295,351	295,351	295,351	295,351
Navy	OH N68640	NWIRP TOLEDO TOTAL	10,260	839,478	81.82	822,888	805,899	805,899	789,109	789,109	772,320	755,530	755,530
Navy	SC B00193	NWS CHARLESTON MB+SHIP	57,773	2,539,698	43.96	2,483,260	2,483,260	2,539,698	2,539,698	2,483,260	2,426,823	2,370,385	2,370,385
Navy	SC N63028	PMF LANT CHARLESTON TOTAL	15,094	645,398	42.76	631,056	631,056	645,398	645,398	631,056	616,714	602,371	602,371
Navy	SC N68356	NRRC CHARLESTON TOTAL	2,833	168,260	59.39	164,521	164,521	168,260	168,260	164,521	160,782	157,043	157,043
Navy	SC N68084	NRMC CHARLESTON TOTAL	14,784	748,296	50.62	731,667	731,667	748,296	748,296	731,667	715,038	698,410	698,410
Navy	SC D61337	NH BEAUFORT MB	9,855	446,783	45.34	436,854	436,854	446,783	446,783	436,854	426,926	416,997	416,997
Navy	SC N45610	NAVCONBRIG CHARLESTON TOTAL	4,882	228,953	46.90	223,865	223,865	228,953	228,953	223,865	218,777	213,689	213,689
			108,436	5,037,411	46.46	4,925,469	4,925,469	5,037,411	5,037,411	4,925,469	4,813,526	4,701,584	4,701,584
Navy	TN N63101	NARU MILLINGTON TOTAL	695	31,732	45.66	31,027	31,027	31,732	31,732	31,027	30,322	29,617	29,617
Navy	TN N60002	NRMC MEMPHIS TOTAL	9,758	446,540	45.76	436,617	436,617	446,540	446,540	436,617	426,694	416,771	416,771
Navy	TN N94307	RAYTHEON CO BRISTOL TOTAL	31,340	1,446,038	46.14	1,413,904	1,413,904	1,446,038	1,446,038	1,413,904	1,381,770	1,349,635	1,349,635
			41,793	1,924,310	46.04	1,881,548	1,881,548	1,924,310	1,924,310	1,881,548	1,838,785	1,796,023	1,796,023
Navy	TX N66082	NSPASURSTA ARCHER CITY TOTAL	17,024	721,426	42.38	706,997	692,569	692,569	678,140	678,140	663,712	649,283	649,283

## DOD Electric Power Usage and Cost Baseline

Group of 31 - Main Base Only

		Total Baseline Cost (\$)													
		FY 1996													
		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005		
Navy	TX	N91961	NWIRP DALLAS TOTAL	189,192	7,884,036	41.67	7,726,355	7,568,675	7,568,675	7,410,994	7,253,313	7,253,313	7,095,632		
Navy	TX	N95918	NIRP MCGREGOR TOTAL	34,012	1,369,408	40.26	1,342,020	1,314,632	1,314,632	1,287,244	1,259,855	1,259,855	1,232,467		
Navy	TX	D00216	NAS CORPUS CHRISTI MB	40,158	1,850,296	46.08	1,813,290	1,776,284	1,776,284	1,739,278	1,702,272	1,702,272	1,665,266		
Navy	TX	N68359	NRRC DALLAS TOTAL	4,367	311,891	71.42	305,653	299,415	299,415	293,178	286,940	286,940	280,702		
Navy	TX	D60241	NAS KINGSVILLE MB	21,036	1,164,909	55.38	1,141,611	1,118,313	1,118,313	1,095,014	1,071,716	1,071,716	1,048,418		
Navy	TX	N00285	NRMC CORPUS CHRISTI TOTAL	10,887	511,473	46.98	501,244	491,014	480,785	480,785	470,555	470,555	460,326		
		316,676	13,813,439	43.62	13,537,170	13,260,901	13,260,901	13,260,901	12,984,633	12,984,633	12,708,364	12,708,364	12,432,095		
Navy	UT	N63319	NSSPO MAGNA TOTAL	10,311	331,747	32.17	371,557	384,827	411,366	411,366	424,636	411,366	411,366		
Navy	VA	N63273	COMBTDIRSYS VIRGINIA BEACH TOTAL	8,339	361,026	43.29	353,003	361,026	361,026	353,003	344,980	344,980	336,958		
Navy	VA	B61414	NPB LITTLE CREEK TOTAL	48,829	2,102,835	43.07	2,056,105	2,102,835	2,102,835	2,056,105	2,009,376	2,009,376	1,962,646		
Navy	VA	B00181	NSY PORTSMOUTH MB+SHIP	50,590	2,862,127	56.57	2,798,524	2,862,127	2,862,127	2,798,524	2,734,921	2,734,921	2,671,319		
Navy	VA	N68593	NAVOCEANPROFAC DAM NECK TOTAL	5,929	258,824	43.65	253,072	258,824	258,824	253,072	247,321	247,321	241,569		
Navy	VA	N30018	NSRDC PORTSMOUTH TOTAL	215	11,911	55.40	11,646	11,911	11,911	11,646	11,382	11,382	11,117		
Navy	VA	N55631	NISMF PORTSMOUTH TOTAL	447	25,164	56.30	24,605	25,164	25,164	24,605	24,046	24,046	23,486		
Navy	VA	B00187	PWC NORFOLK MB+SHIP	484,402	20,162,046	41.62	19,714,001	20,162,046	20,162,046	19,714,001	19,265,955	19,265,955	18,817,910		
Navy	VA	N65887	NARF NORFOLK TOTAL	35,021	1,455,230	41.55	1,422,892	1,455,230	1,455,230	1,422,892	1,390,553	1,390,553	1,358,215		
Navy	VA	N57023	NAVCOMM NORFOLK TOTAL	1,128	46,753	41.45	45,714	46,753	46,753	45,714	44,675	44,675	43,636		
Navy	VA	N63061	NEOC NORFOLK TOTAL	944	39,380	41.72	38,505	39,380	39,380	38,505	37,630	37,630	36,755		
Navy	VA	N61414	NAB LITTLE CREEK TOTAL	75,623	3,251,449	43.00	3,179,195	3,251,449	3,251,449	3,179,195	3,106,940	3,106,940	3,034,686		
Navy	VA	N62470	LANTFLT NORFOLK TOTAL	4,793	200,874	41.91	196,410	200,874	200,874	196,410	191,946	191,946	187,482		
Navy	VA	N0387A	NMITC DAM NECK VIRGINIA BEACH TOTAL	4,284	188,291	43.95	184,107	188,291	188,291	184,107	179,923	179,923	175,738		
Navy	VA	D00178	NSWC DAHLGREN MB	78,793	3,491,961	44.32	3,414,362	3,491,961	3,491,961	3,414,362	3,336,763	3,336,763	3,259,164		
Navy	VA	N68724	AEGISTRACEN DAHLGREN TOTAL	14,211	630,908	44.40	616,888	616,888	630,908	616,888	602,868	602,868	588,847		
Navy	VA	N00183	NH PORTSMOUTH TOTAL	35,117	1,562,775	44.50	1,528,047	1,562,775	1,562,775	1,528,047	1,493,318	1,493,318	1,458,590		
Navy	VA	D60191	NAS OCEANA VIRGINIA BEACH MB	72,454	3,205,977	44.25	3,134,733	3,205,977	3,205,977	3,134,733	3,063,489	3,063,489	2,992,245		
Navy	VA	N45004	MARENWIRON SYS FAC DAM NECK TOTAL	6,452	282,691	43.81	276,409	282,691	282,691	276,409	270,127	270,127	263,845		
Navy	VA	D00109	NWS YORKTOWN MB	35,852	1,583,051	44.16	1,547,872	1,583,051	1,583,051	1,547,872	1,512,693	1,512,693	1,477,514		
Navy	VA	D00281	FCTC VIRGINIA BEACH MB	45,974	2,030,321	44.16	1,985,203	2,030,321	2,030,321	1,985,203	1,940,085	1,940,085	1,894,966		
Navy	VA	N42063	SATCOMDET NORTHWEST CHESAPEAKE TOT	3,067	149,178	48.64	145,863	149,178	149,178	145,863	142,548	142,548	139,233		
Navy	VA	N00182	ST JULIENS CREEK ANNEX PORTSMOUTH TOT	16,910	832,399	49.23	813,901	832,399	832,399	813,901	795,403	795,403	776,906		
Navy	VA	N64619	GMSCOL VIRGINIA BEACH TOTAL	36,000	1,800,000	50.00	1,760,000	1,800,000	1,800,000	1,760,000	1,720,000	1,720,000	1,680,000		
Navy	VA	N63393	NSC NORFOLK TOTAL	54,459	2,582,177	47.42	2,524,795	2,582,177	2,582,177	2,524,795	2,467,414	2,467,414	2,410,032		
Navy	VA	N32528	NCB NORFOLK TOTAL	1,485	66,585	44.84	65,105	66,585	66,585	65,105	63,626	63,626	62,146		
Navy	VA	N0552A	NRTF DRIVER TOTAL	144	6,660	46.25	6,512	6,660	6,660	6,512	6,364	6,364	6,216		
Navy	VA	N68722	NAVAL MEDICAL CLINIC NORFOLK TOTAL	1,852	86,911	46.93	84,980	86,911	86,911	84,980	83,048	83,048	81,117		

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		Total Baseline Cost (\$)												
FY 1996		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	
Navy	VA	N53989	1,401	61,586	43.96	60,217	60,217	61,586	61,586	61,586	60,217	58,849	58,849	57,480
Navy	VA	N67230	1,447	58,742	40.60	57,437	57,437	58,742	58,742	58,742	57,437	56,131	56,131	54,826
Navy	VA	N62753	2,651	108,926	41.09	106,505	106,505	108,926	108,926	106,505	106,505	104,085	104,085	101,664
Navy	VA	N63401	444	18,070	40.70	17,668	17,668	18,070	18,070	17,668	17,668	17,267	17,267	16,865
Navy	VA	N57095	20,486	841,752	41.09	823,046	823,046	841,752	841,752	823,046	823,046	804,341	804,341	785,635
Navy	VA	D63891	19,856	802,740	40.43	784,901	784,901	802,740	802,740	784,901	784,901	767,063	767,063	749,224
Navy	VA	N64590	3,465	142,624	41.16	139,455	139,455	142,624	142,624	139,455	139,455	136,285	136,285	133,116
Navy	VA	N70272	6,714	275,971	41.10	269,838	269,838	275,971	275,971	269,838	269,838	263,706	263,706	257,573
Navy	VA	N61797	18,835	773,531	41.07	756,341	756,341	773,531	773,531	756,341	756,341	739,152	739,152	721,962
Navy	VA	N63102	2,868	117,740	41.05	115,124	115,124	117,740	117,740	115,124	112,507	112,507	112,507	109,891
Navy	VA	N00188	47,078	1,923,780	40.86	1,881,029	1,881,029	1,923,780	1,923,780	1,881,029	1,881,029	1,838,279	1,838,279	1,795,528
Navy	VA	N62688	66,426	2,728,298	41.07	2,667,669	2,667,669	2,728,298	2,728,298	2,667,669	2,667,669	2,607,040	2,607,040	2,546,411
Navy	VA	N60951	1,777	72,473	40.78	70,862	70,862	72,473	72,473	70,862	69,252	69,252	69,252	67,641
Navy	VA	N69057	2,878	118,231	41.08	115,604	115,604	118,231	118,231	115,604	112,976	112,976	112,976	110,349
Navy	VA	N61720	5,707	232,855	40.80	227,680	227,680	232,855	232,855	227,680	222,506	222,506	222,506	217,331
Navy	VA	N57074	18,791	776,058	41.30	758,812	758,812	776,058	776,058	758,812	741,567	741,567	741,567	724,321
Navy	VA	N63367	3,885	160,944	41.43	157,367	157,367	160,944	160,944	157,367	153,791	153,791	153,791	150,214
			1,348,023	58,491,825	43.39	57,192,007	57,192,007	58,491,825	58,491,825	57,192,007	55,892,188	55,892,188	55,892,188	54,592,370
Navy	WV	N91571	21,766	928,680	42.69	910,106	891,533	891,533	872,959	872,959	854,386	854,386	854,386	835,812
Navy	WV	D70310	4,920	192,000	39.02	188,160	184,320	184,320	180,480	180,480	176,640	176,640	176,640	172,800
			26,676	1,120,680	42.01	1,098,266	1,075,853	1,075,853	1,053,439	1,053,439	1,031,026	1,031,026	1,031,026	1,008,612
			3,387,864	153,561,770		151,628,552	150,960,022	152,705,549	152,088,970	148,914,681	146,462,900	145,788,116	145,788,116	143,315,695
USAF	AL	FP3300	74,563	3,349,511	44.92	3,275,077	3,275,077	3,349,511	3,349,511	3,275,077	3,200,644	3,200,644	3,200,644	3,126,210
USAF	AL	FG4444	39,723	1,715,400	43.18	1,677,280	1,677,280	1,715,400	1,715,400	1,677,280	1,639,160	1,639,160	1,639,160	1,601,040
			114,286	5,064,911	44.32	4,952,357	4,952,357	5,064,911	5,064,911	4,952,357	4,839,804	4,839,804	4,839,804	4,727,250
USAF	AR	FP4460	50,063	2,506,377	50.06	2,454,161	2,454,161	2,401,945	2,401,945	2,349,728	2,349,728	2,297,512	2,297,512	2,297,512
USAF	CO	FB2510	35,421	1,199,929	33.88	1,176,401	1,152,873	1,152,873	1,129,345	1,105,817	1,105,817	1,105,817	1,105,817	1,105,817
USAF	CO	FP4500	44,509	3,441,565	77.32	3,374,083	3,306,602	3,306,602	3,239,120	3,171,638	3,171,638	3,171,638	3,171,638	3,171,638
USAF	CO	FB7000	76,510	3,033,897	39.65	2,974,409	2,914,921	2,914,921	2,855,432	2,795,944	2,795,944	2,795,944	2,795,944	2,795,944
USAF	CO	FY1623	64,710	2,308,825	35.68	2,283,554	2,218,283	2,218,283	2,173,012	2,127,741	2,127,741	2,127,741	2,127,741	2,127,741

DOD Electric Power Usage and Cost Baseline  
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				Total Baseline Cost (\$)										
FY 1996				1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
MWh	\$	\$/MWh												
221,149	9,984,216	45.15		9,788,447	9,592,678	9,592,678	9,396,909	9,396,909	9,396,909	9,201,140	9,201,140	9,201,140	9,201,140	
77,355	4,671,970	60.40		4,578,531	4,485,091	4,485,091	4,485,091	4,485,091	4,391,652	4,391,652	4,298,212	4,298,212	4,204,773	
53,261	2,854,129	53.59		2,764,937	2,764,937	2,764,937	2,720,342	2,720,342	2,720,342	2,720,342	2,675,746	2,631,150	2,586,554	
79,189	4,304,413	54.36		4,379,929	4,379,929	4,379,929	4,304,413	4,304,413	4,304,413	4,228,897	4,228,897	4,153,381	4,153,381	
66,477	3,043,920	45.79		3,097,322	3,097,322	3,097,322	3,043,920	3,043,920	3,043,920	2,990,518	2,990,518	2,937,116	2,937,116	
172,672	8,097,132	46.89		8,239,187	8,239,187	8,239,187	8,097,132	8,097,132	8,097,132	7,955,077	7,955,077	7,813,022	7,813,022	
235,487	10,549,982	44.80		10,735,069	10,735,069	10,735,069	10,549,982	10,549,982	10,549,982	10,364,895	10,364,895	10,179,807	10,179,807	
79,567	3,612,803	45.41		3,676,186	3,676,186	3,676,186	3,612,803	3,612,803	3,612,803	3,549,420	3,549,420	3,486,038	3,486,038	
67,038	3,213,066	47.93		3,269,436	3,269,436	3,269,436	3,213,066	3,213,066	3,213,066	3,156,696	3,156,696	3,100,327	3,100,327	
700,430	32,821,316	46.86		33,397,129	33,397,129	33,397,129	32,821,316	32,821,316	32,821,316	32,245,503	32,245,503	31,669,691	31,669,691	
37,002	1,666,738	45.04		1,629,699	1,629,699	1,629,699	1,666,738	1,666,738	1,666,738	1,629,699	1,592,661	1,592,661	1,555,622	
16,097	863,475	53.64		844,287	844,287	844,287	863,475	863,475	863,475	844,287	825,098	825,098	805,910	
228,030	9,841,697	43.16		9,622,993	9,622,993	9,622,993	9,841,697	9,841,697	9,841,697	9,622,993	9,404,288	9,404,288	9,185,584	
281,129	12,371,910	44.01		12,096,979	12,096,979	12,096,979	12,371,910	12,371,910	12,371,910	12,096,979	11,822,047	11,822,047	11,547,116	
47,051	1,382,622	29.39		1,548,537	1,603,842	1,714,451	1,714,451	1,714,451	1,714,451	1,714,451	1,769,756	1,714,451	1,714,451	
41,488	2,445,361	58.94		2,394,416	2,394,416	2,343,471	2,343,471	2,343,471	2,343,471	2,292,526	2,292,526	2,241,581	2,241,581	
76,066	2,935,828	38.60		2,874,665	2,874,665	2,813,502	2,813,502	2,813,502	2,813,502	2,752,339	2,752,339	2,691,176	2,691,176	
4,754	246,408	51.83		246,408	240,541	234,674	228,807	228,807	228,807	222,941	222,941	222,941	222,941	
65,803	3,149,880	47.87		3,079,883	3,149,880	3,149,880	3,149,880	3,149,880	3,149,880	3,149,880	3,149,880	3,149,880	3,079,883	
133,883	5,602,170	41.84		5,477,677	5,477,677	5,602,170	5,602,170	5,602,170	5,602,170	5,477,677	5,353,185	5,353,185	5,228,692	
24,511	1,295,885	52.87		1,267,088	1,267,088	1,295,885	1,295,885	1,295,885	1,295,885	1,267,088	1,238,290	1,238,290	1,209,493	
158,394	6,898,055	43.55		6,744,765	6,744,765	6,898,055	6,898,055	6,898,055	6,898,055	6,744,765	6,591,475	6,591,475	6,438,185	
37,853	2,428,367	64.15		2,374,403	2,374,403	2,428,367	2,428,367	2,428,367	2,428,367	2,374,403	2,320,440	2,320,440	2,266,476	
61,328	2,879,571	46.95		2,815,581	2,815,581	2,879,571	2,879,571	2,879,571	2,879,571	2,815,581	2,751,590	2,751,590	2,687,600	
99,181	5,307,938	111.11		5,189,984	5,189,984	5,307,938	5,307,938	5,307,938	5,307,938	5,189,984	5,072,030	5,072,030	4,954,075	

DOD Electric Power Usage and Cost Baseline  
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		FY 1996											Total Baseline Cost (\$)											
		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005											
USAF	ND	FB4659	GRAND FORKS AFB	134,457	5,003,039	37.21	5,003,039	4,883,919	4,764,799	4,645,679	4,526,559	4,526,559	4,526,559	4,526,559										
USAF	ND	FP4528	MINOT AFB	10,087	1,662,268	164.80	1,662,268	1,622,690	1,583,112	1,543,535	1,503,957	1,503,957	1,503,957	1,503,957										
		<b>144,544</b>	<b>6,665,307</b>	<b>46.11</b>	<b>6,665,307</b>	<b>6,506,609</b>	<b>6,347,911</b>	<b>6,189,214</b>	<b>6,189,214</b>	<b>6,030,516</b>	<b>6,030,516</b>	<b>6,030,516</b>	<b>6,030,516</b>	<b>6,030,516</b>										
USAF	NM	FP4855	CANNON AFB	51,595	2,063,481	39.99	2,023,021	1,982,560	1,942,100	1,901,639	1,901,639	1,901,639	1,901,639	1,901,639										
USAF	NM	FP4801	HOLLOMAN AFB	62,364	3,867,729	62.02	3,791,891	3,716,053	3,640,216	3,564,378	3,564,378	3,564,378	3,564,378	3,564,378										
USAF	NM	FP4469	KIRTLAND AFB	86,197	5,612,072	65.11	5,502,031	5,391,991	5,281,950	5,171,909	5,171,909	5,171,909	5,171,909	5,171,909										
		<b>200,156</b>	<b>11,543,282</b>	<b>57.67</b>	<b>11,316,943</b>	<b>11,090,604</b>	<b>11,090,604</b>	<b>10,864,265</b>	<b>10,864,265</b>	<b>10,637,927</b>	<b>10,637,927</b>	<b>10,637,927</b>	<b>10,637,927</b>	<b>10,637,927</b>										
USAF	OH	FP2006	NEWARK AFB	46,138	1,743,292	37.78	1,708,426	1,673,560	1,673,560	1,638,694	1,638,694	1,603,829	1,568,963	1,568,963										
USAF	OH	FP2300	WRIGHT PATTERSON	384,574	15,756,481	40.97	15,441,351	15,126,222	15,126,222	14,811,092	14,811,092	14,495,963	14,180,833	14,180,833										
USAF	OH	FP6656	YOUNGSTOWN MAP	4,896	363,919	74.33	356,641	349,362	349,362	342,084	342,084	334,805	327,527	327,527										
		<b>435,609</b>	<b>17,863,692</b>	<b>41.01</b>	<b>17,506,418</b>	<b>17,149,144</b>	<b>17,149,144</b>	<b>17,149,144</b>	<b>17,149,144</b>	<b>16,791,870</b>	<b>16,791,870</b>	<b>16,434,597</b>	<b>16,434,597</b>	<b>16,434,597</b>										
USAF	OK	FP3029	VANCE AFB	0	0	NA	0	0	0	0	0	0	0	0										
USAF	OK	FP2039	TINKER AFB	346,508	11,268,164	32.52	11,033,411	10,798,657	10,798,657	10,798,657	10,563,904	10,563,904	10,329,150	10,329,150										
USAF	OK	FP4419	ALTUS AFB	45,369	1,752,828	38.63	1,716,311	1,679,794	1,679,794	1,679,794	1,643,276	1,643,276	1,606,759	1,606,759										
		<b>391,877</b>	<b>13,020,992</b>	<b>33.23</b>	<b>12,749,721</b>	<b>12,749,721</b>	<b>12,749,721</b>	<b>12,478,451</b>	<b>12,478,451</b>	<b>12,478,451</b>	<b>12,207,180</b>	<b>12,207,180</b>	<b>11,935,909</b>	<b>11,935,909</b>										
USAF	SC	FP4418	CHARLESTON AFB	53,568	2,064,859	38.55	2,018,973	2,064,859	2,064,859	2,018,973	1,973,087	1,973,087	1,927,202	1,927,202										
USAF	SC	FP4803	SHAW AFB	58,438	3,000,337	51.34	2,933,663	3,000,337	3,000,337	2,933,663	2,866,989	2,866,989	2,800,315	2,800,315										
USAF	SD	FP4690	ELLSWORTH AFB	53,613	1,592,708	29.71	1,592,708	1,554,786	1,516,865	1,478,943	1,441,022	1,441,022	1,441,022	1,441,022										
		<b>165,620</b>	<b>6,657,904</b>	<b>40.20</b>	<b>6,545,344</b>	<b>6,507,422</b>	<b>6,582,061</b>	<b>6,544,139</b>	<b>6,544,139</b>	<b>6,393,658</b>	<b>6,281,098</b>	<b>6,281,098</b>	<b>6,168,538</b>	<b>6,168,538</b>										
USAF	TN	EY7483	ARNOLD AFB	601,417	18,448,149	30.67	18,038,190	18,448,149	18,448,149	18,038,190	17,628,231	17,628,231	17,218,272	17,218,272										
USAF	TX	FP4661	DYESS AFB	58,366	2,225,189	38.12	2,180,685	2,136,181	2,136,181	2,091,678	2,047,174	2,047,174	2,002,670	2,002,670										
USAF	TX	FP3090	WILFORD HALL	10,468	465,584	44.48	456,272	446,961	446,961	437,649	428,337	428,337	419,026	419,026										
USAF	TX	FB3047	LACKLAND AFB	118,079	5,301,877	44.90	5,195,839	5,089,802	5,089,802	4,983,764	4,877,727	4,877,727	4,771,689	4,771,689										
USAF	TX	FP3089	RANDOLPH AFB	71,596	2,409,367	33.65	2,361,180	2,312,992	2,312,992	2,264,805	2,216,618	2,216,618	2,168,430	2,168,430										
USAF	TX	FG2857	BROOKS AFB	59,256	2,171,118	36.64	2,127,696	2,084,273	2,084,273	2,040,851	1,997,429	1,997,429	1,954,006	1,954,006										
USAF	TX	FP3030	GOODFELLOW AFB	39,436	1,449,848	36.76	1,420,851	1,391,854	1,391,854	1,362,857	1,333,860	1,333,860	1,304,863	1,304,863										
USAF	TX	FY4006	ELDORADO AFS	3,513	234,130	66.65	229,447	224,765	224,765	220,082	215,400	215,400	210,717	210,717										
USAF	TX	FP3099	LAUGHLIN AFB	34,507	1,855,056	53.76	1,817,955	1,780,854	1,780,854	1,743,753	1,706,652	1,706,652	1,669,550	1,669,550										
USAF	TX	FP3020	SHEPPARD AFB	88,299	4,463,052	50.54	4,373,791	4,284,530	4,284,530	4,195,269	4,106,008	4,106,008	4,016,747	4,016,747										
		<b>483,519</b>	<b>20,575,221</b>	<b>42.55</b>	<b>20,163,717</b>	<b>19,752,212</b>	<b>19,752,212</b>	<b>19,752,212</b>	<b>19,752,212</b>	<b>19,340,708</b>	<b>19,340,708</b>	<b>18,929,203</b>	<b>18,517,699</b>	<b>18,517,699</b>										

## DOD Electric Power Usage and Cost Baseline

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				Total Baseline Cost (\$)											
FY 1996				1997	1998	1999	2000	2001	2002	2003	2004	2005			

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			2006	2007	2008	2009	2010	2011	Total	NPV
Army	AL	NA	5,066,304	4,948,483	4,948,483	4,948,483	4,948,483	4,830,662	76,230,201	56,746,514
Army	AL	NA	2,724,904	2,661,534	2,661,534	2,661,534	2,661,534	2,598,165	41,000,304	30,521,030
Army	AL	NA	20,490,713	20,014,184	20,014,184	20,014,184	20,014,184	19,537,656	308,313,745	229,511,793
			28,281,921	27,624,202	27,624,202	27,624,202	27,624,202	26,966,483	425,544,251	316,779,337
Army	AR	NA	1,322,745	1,352,808	1,352,808	1,352,808	1,352,808	1,322,745	20,382,304	15,151,485
Army	CO	NA	76,914	76,914	75,242	73,570	73,570	71,898	1,170,427	873,512
Army	CO	NA	3,992,747	3,992,747	3,905,948	3,819,149	3,819,149	3,732,350	60,759,190	45,345,722
			4,069,661	4,069,661	3,881,190	3,892,719	3,892,719	3,804,248	61,929,618	46,219,234
Army	DC	NA	7,221,011	7,221,011	7,221,011	7,221,011	7,060,544	6,900,078	110,882,642	82,673,479
Army	GA	NA	2,347,437	2,292,845	2,292,845	2,292,845	2,292,845	2,238,254	35,320,736	26,293,105
Army	GA	NA	2,757,388	2,693,263	2,693,263	2,693,263	2,629,138	2,629,138	41,489,076	30,884,878
Army	GA	NA	10,060,726	9,826,756	9,826,756	9,826,756	9,826,756	9,592,785	151,378,834	112,687,897
Army	GA	NA	6,173,293	6,029,728	6,029,728	6,029,728	6,029,728	5,886,163	92,886,526	69,145,646
Army	GA	NA	7,178,820	7,011,871	7,011,871	7,011,871	7,011,871	6,844,922	108,016,204	80,408,328
			28,517,665	27,854,463	27,854,463	27,854,463	27,854,463	27,191,262	429,091,378	319,419,854
Army	KS	NA	6,141,577	6,281,158	6,281,158	6,281,158	6,281,158	6,141,577	94,636,116	70,349,145
Army	KS	NA	3,722,985	3,807,598	3,807,598	3,807,598	3,807,598	3,722,985	57,367,812	42,645,204
			9,864,562	10,088,756	10,088,756	10,088,756	10,088,756	9,864,562	152,003,928	112,994,349
Army	KY	NA	6,458,558	6,458,558	6,458,558	6,458,558	6,315,034	6,171,511	99,174,739	73,944,132
Army	KY	NA	251,671	251,671	251,671	251,671	246,078	240,485	3,864,542	2,881,381
Army	KY	NA	10,873,985	10,873,985	10,873,985	10,873,985	10,632,340	10,390,696	166,976,073	124,496,429
			17,584,213	17,584,213	17,584,213	17,584,213	17,193,452	16,802,692	270,015,353	201,321,941
Army	LA	NA	9,529,981	9,746,572	9,746,572	9,746,572	9,746,572	9,529,981	146,848,345	109,161,871
Army	MO	NA	90,601	92,708	92,708	90,601	90,601	88,494	1,394,834	1,036,678
Army	MO	NA	2,230,483	2,282,354	2,282,354	2,230,483	2,230,483	2,176,611	34,339,058	25,521,707
Army	MO	NA	4,228,506	4,326,844	4,326,844	4,228,506	4,228,506	4,130,169	65,099,329	48,383,563
			6,549,590	6,701,906	6,701,906	6,549,590	6,549,590	6,397,274	100,833,221	74,941,948
Army	MS	NA	420,572	410,792	410,792	410,792	410,792	401,011	6,326,149	4,710,736



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			2006	2007	2008	2009	2010	2011	Total	NPV
Army	NC	NA	211,056	206,148	206,148	206,148	206,148	201,240	3,175,663	2,363,995
Army	NC	NA	23,553,978	23,006,211	23,006,211	23,006,211	23,006,211	22,458,444	354,405,206	263,822,731
			23,765,035	23,212,359	23,212,359	23,212,359	23,212,359	22,659,684	357,580,869	266,186,725
Army	ND	NA	14,812	14,812	14,812	14,812	14,812	14,812	226,465	168,611
Army	NM	NA	6,347,110	6,347,110	6,209,129	6,071,148	6,071,148	5,933,168	96,586,453	72,084,280
Army	OH	NA	3,384,000	3,384,000	3,384,000	3,384,000	3,384,000	3,233,600	51,963,200	38,743,472
Army	OK	NA	409,866	419,182	419,182	419,182	419,182	409,866	6,315,669	4,694,845
Army	OK	NA	619,259	633,333	633,333	633,333	633,333	619,259	9,542,215	7,093,345
			1,029,125	1,052,514	1,052,514	1,052,514	1,052,514	1,029,125	15,857,883	11,788,190
Army	OR	NA	122,632	122,632	122,632	118,676	118,676	118,676	1,811,793	1,340,897
Army	SC	NA	4,134,180	4,038,036	4,038,036	4,038,036	4,038,036	3,941,892	62,204,981	46,306,001
Army	TN	NA	218,183	213,109	213,109	213,109	213,109	208,035	3,282,892	2,443,817
Army	TX	NA	5,424,886	5,424,886	5,424,886	5,424,886	5,304,333	5,183,780	83,302,137	62,109,609
Army	TX	NA	2,648,562	2,648,562	2,648,562	2,648,562	2,589,705	2,530,848	40,670,146	30,323,434
Army	TX	NA	18,390,154	18,390,154	18,390,154	18,390,154	17,981,484	17,572,814	282,391,039	210,549,184
Army	TX	NA	1,884,732	1,884,732	1,884,732	1,884,732	1,842,849	1,800,966	28,941,112	21,578,331
Army	TX	NA	396,638	396,638	396,638	396,638	387,824	379,010	6,090,598	4,541,116
Army	TX	NA	10,043,894	10,043,894	10,043,894	10,043,894	9,820,696	9,597,499	154,229,569	114,992,707
			38,788,867	38,788,867	38,788,867	38,788,867	37,926,892	37,064,917	595,624,601	444,094,380
Army	UT	NA	1,525,876	1,525,876	1,525,876	1,476,654	1,476,654	1,476,654	22,543,584	16,684,363
Army	UT	NA	2,629,162	2,629,162	2,629,162	2,544,350	2,544,350	2,544,350	38,843,749	28,748,012
			4,155,038	4,155,038	4,155,038	4,021,004	4,021,004	4,021,004	61,387,334	45,432,375
Army	VA	NA	1,216,041	1,187,761	1,187,761	1,187,761	1,187,761	1,159,481	18,297,174	13,620,597
Army	VA	NA	8,379,528	8,184,655	8,184,655	8,184,655	8,184,655	7,989,782	126,082,658	93,857,174
Army	VA	NA	2,297,156	2,243,733	2,243,733	2,243,733	2,243,733	2,190,311	34,564,178	25,729,915
Army	VA	NA	4,089,824	3,994,809	3,994,809	3,994,809	3,994,809	3,899,695	61,539,089	45,810,305

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		2006	2007	2008	2009	2010	2011	Total	NPV
Army	VA NA FT LEE	3,255,359	3,179,653	3,179,653	3,179,653	3,179,653	3,103,947	48,981,796	36,462,532
Army	VA NA FT MYER	1,589,137	1,552,180	1,552,180	1,552,180	1,552,180	1,515,223	23,910,963	17,799,557
Army	VA NA FT A P HILL	728,628	711,683	711,683	711,683	711,683	694,739	10,963,314	8,161,199
		21,555,772	21,054,475	21,054,475	21,054,475	21,054,475	20,553,178	324,339,173	241,441,280
Army	WI NA FT MCCOY	1,043,535	1,067,803	1,067,803	1,043,535	1,043,535	1,019,266	16,065,578	11,940,367
	TOTAL (ARMY)	217,920,208	216,105,138	215,878,686	215,337,661	213,849,259	208,977,693	3,310,790,411	2,465,344,631
Navy	AL N66085 NSPASURSTA WETUMPKA TOTAL	50,897	49,713	49,713	49,713	49,713	48,529	765,818	570,082
Navy	AR N66083 NSPASURSTA LEWISVILLE TOTAL	13,206	13,506	13,506	13,506	13,506	13,206	203,485	151,263
Navy	DC N62285 NAVOBSERV TOTAL	342,339	342,339	342,339	342,339	334,732	327,124	5,256,810	3,919,448
Navy	DC D00173 NRL WASHINGTON MB	9,260,125	9,260,125	9,260,125	9,260,125	9,054,345	8,848,564	142,194,367	106,019,327
Navy	DC N00171 ND WASHINGTON DC TOTAL	4,892,350	4,892,350	4,892,350	4,892,350	4,783,631	4,674,912	75,124,746	56,012,592
Navy	DC N68306 NRRC WASHINGTON TOTAL	174,066	174,066	174,066	174,066	170,198	166,330	2,672,885	1,992,888
		14,668,880	14,668,880	14,668,880	14,668,880	14,342,905	14,016,930	225,248,808	167,944,255
Navy	FL N63082 NTTC PENSACOLA TOTAL	1,308,879	1,237,486	1,285,082	1,285,082	1,285,082	1,261,284	19,799,775	14,751,746
Navy	FL N0463A NAVXIDIVINGV PANAMA CITY TOTAL	132,540	125,311	130,131	130,131	130,131	127,721	2,004,974	1,493,798
Navy	FL B61331 NAVCOASTSYSCEN PANAMA CITY TOTAL	7,589	7,175	7,451	7,451	7,451	7,313	114,801	85,532
Navy	FL N00203 NARMC PENSACOLA TOTAL	667,776	631,352	655,635	655,635	655,635	643,493	10,101,633	7,526,182
Navy	FL D00207 NAS JACKSONVILLE MB	3,507,374	3,316,063	3,443,604	3,443,604	3,443,604	3,379,833	53,057,005	39,529,915
Navy	FL N65492 NRMCO ORLANDO TOTAL	26,111	24,686	25,636	25,636	25,636	25,161	394,981	294,279
Navy	FL N61339 NTEC ORLANDO TOTAL	333,234	315,058	327,176	327,176	327,176	321,117	5,040,927	3,755,723
Navy	FL B60201 NS MAYPORT TOTAL	7,014,351	6,631,750	6,886,817	6,886,817	6,886,817	6,759,283	106,107,996	79,055,349
Navy	FL N62670 SUPSHIP JACKSONVILLE TOTAL	49,705	46,993	48,801	48,801	48,801	47,897	751,894	580,196
Navy	FL N63099 NARU JACKSONVILLE TOTAL	162,983	154,093	160,020	160,020	160,020	157,057	2,465,493	1,836,906
Navy	FL N0610A NAVDIVESALVTRACEN PANAMA CITY TOTAL	170,541	161,238	167,440	167,440	167,440	164,339	2,579,813	1,922,080
Navy	FL N32779 SIMA NAS MAYPORT TOTAL	66,758	63,117	65,545	65,545	65,545	64,331	1,009,873	752,402
Navy	FL N39142 NRTE SADDLEBUNCH KEYS TOTAL	103,421	97,780	101,541	101,541	101,541	99,660	1,564,481	1,165,611
Navy	FL N00267 NRMCO KEY WEST TOTAL	115,553	109,250	113,452	113,452	113,452	111,351	1,748,003	1,302,343
Navy	FL N63425 NCU KEY WEST TOTAL	57,349	54,220	56,306	56,306	56,306	55,263	867,528	646,348
Navy	FL D00213 NAS KEY WEST MB	3,272,321	3,093,830	3,212,824	3,212,824	3,212,824	3,153,327	49,501,285	36,880,740
Navy	FL N32575 NCB MAYPORT TOTAL	19,560	18,493	19,204	19,204	19,204	18,848	295,885	220,448

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		2006	2007	2008	2009	2010	2011	Total	NPV
Navy	FL N62701	62,526	59,116	61,389	61,389	61,389	60,253	945,853	704,704
	NSWC FORT LAUDERDALE TOTAL								
Navy	FL N68358	290,469	274,626	285,188	285,188	285,188	279,907	4,394,011	3,273,741
	NRRC JACKSONVILLE TOTAL								
Navy	FL N68836	142,104	134,352	139,520	139,520	139,520	136,936	2,149,640	1,601,581
	NSC JACKSONVILLE TOTAL								
Navy	FL N68452	107,861	101,977	105,900	105,900	105,900	103,939	1,631,640	1,215,647
	NAVAEROMEDRSCHLAB PENSACOLA TOTAL								
Navy	FL N65889	859,656	812,765	844,026	844,026	844,026	828,396	13,004,248	9,688,764
	NARF PENSACOLA TOTAL								
Navy	FL N68860	23,334	22,061	22,909	22,909	22,909	22,485	352,972	262,981
	NSC PENSACOLA TOTAL								
Navy	FL N68142	4,773,600	4,513,221	4,686,807	4,686,807	4,686,807	4,600,014	72,211,542	53,800,928
	NAS PENSACOLA TOTAL								
Navy	FL B00204	584,063	552,205	573,444	573,444	573,444	562,825	8,835,285	6,582,695
	PWC PENSACOLA MB+SHIP								
Navy	FL N68441	38,827	36,709	38,121	38,121	38,121	37,415	587,348	437,601
	NRDC PENSACOLA TOTAL								
Navy	FL N0751A	127,355	120,408	125,039	125,039	125,039	122,724	1,926,532	1,435,356
	NAMI NAS PENSACOLA TOTAL								
Navy	FL D61331	1,098,623	1,038,698	1,078,648	1,078,648	1,078,648	1,058,673	16,619,171	12,382,048
	NCSC PANAMA CITY MB								
Navy	FL N00232	877,013	829,176	861,067	861,067	861,067	845,121	13,266,809	9,884,385
	NRMC JACKSONVILLE TOTAL								
Navy	FL N68560	555,803	525,486	545,697	545,697	545,697	535,592	8,407,783	6,264,186
	NARDAC JACKSONVILLE TOTAL								
Navy	FL N10151	84,629	80,012	83,090	83,090	83,090	81,551	1,280,200	953,808
	FTC MAYPORT TOTAL								
Navy	FL N65886	2,678,803	2,532,686	2,630,097	2,630,097	2,630,097	2,581,392	40,522,983	30,191,491
	NARF JACKSONVILLE TOTAL								
Navy	FL N68734	68,239	64,516	66,998	66,998	66,998	65,757	1,032,264	769,084
	NAVCOMSTA JACKSONVILLE TOTAL								
Navy	FL D60508	1,180,206	1,115,832	1,158,748	1,158,748	1,158,748	1,137,290	17,853,304	13,301,535
	NAS WHITING FIELD MB								
Navy	FL N68322	717,817	678,683	704,765	704,765	704,765	691,714	10,858,607	8,090,163
	NETPDC ELLYSON FIELD PENSACOLA TOTAL								
		<b>31,286,971</b>	<b>29,580,409</b>	<b>30,718,117</b>	<b>30,718,117</b>	<b>30,718,117</b>	<b>30,149,263</b>	<b>473,286,543</b>	<b>352,620,295</b>
Navy	GA B42237	2,409,996	2,353,950	2,353,950	2,353,950	2,353,950	2,297,903	36,262,035	26,993,817
	NAVSUBASE KINGS BAY MB+SHIP								
Navy	GA N44466	1,034,763	1,010,699	1,010,699	1,010,699	1,010,699	986,635	15,569,581	11,590,149
	TRIREFFAC KINGS BAY TOTAL								
Navy	GA N68733	1,801,435	1,759,541	1,759,541	1,759,541	1,759,541	1,717,648	27,105,317	20,177,466
	SWFATLANT KINGSBURY TOTAL								
Navy	GA D00196	480,612	469,435	469,435	469,435	469,435	458,258	7,231,533	5,383,225
	NAS ATLANTA MB								
Navy	GA N68087	12,328	12,041	12,041	12,041	12,041	11,754	185,488	138,079
	NSPASURSTA SAVANNAH TOTAL								
Navy	GA D62741	287,038	280,363	280,363	280,363	280,363	273,688	4,318,926	3,215,051
	NSCS ATHENS MB								
Navy	GA N68086	13,774	13,454	13,454	13,454	13,454	13,134	207,256	154,283
	NSPASURSTA HAWKINSVILLE TOTAL								
Navy	GA N68701	742,073	724,815	724,815	724,815	724,815	707,558	11,165,610	8,311,790
	TRITRAFAC KINGS BAY TOTAL								
		<b>6,782,020</b>	<b>6,624,299</b>	<b>6,624,299</b>	<b>6,624,299</b>	<b>6,624,299</b>	<b>6,466,577</b>	<b>102,045,746</b>	<b>75,963,860</b>
Navy	ID N62182	228,503	228,503	228,503	221,132	221,132	221,132	3,375,955	2,498,523
	NSRDC BAYVIEW TOTAL								
Navy	KS N30924	23,445	23,978	23,978	23,978	23,978	23,445	361,261	268,549
	NARC OLATHE TOTAL								
Navy	LA D00206	1,365,059	1,396,083	1,396,083	1,396,083	1,396,083	1,365,059	21,034,314	15,636,166
	NAS NEW ORLEANS MB								
Navy	LA N68307	192,822	197,204	197,204	197,204	197,204	192,822	2,971,208	2,208,691
	NRRC NEW ORLEANS TOTAL								
Navy	LA D00205	2,158,181	2,207,230	2,207,230	2,207,230	2,207,230	2,158,181	33,255,603	24,721,041
	NSA NEW ORLEANS MB								

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		2006	2007	2008	2009	2010	2011	Total	NPV
Navy	MN N91192 NIROP MINNEAPOLIS TOTAL	1,280,566	1,280,566	1,280,566	1,280,566	1,280,566	1,280,566	19,579,174	14,577,328
Navy	MN N30315 NASTROGRP DET BRAVO ROSEMOUNT TOTAL	48,781	48,781	48,781	48,781	48,781	48,781	745,838	555,300
Navy	MN N68349 NRRC MINNEAPOLIS TOTAL	245,395	245,395	245,395	245,395	245,395	245,395	3,751,960	2,793,455
		<b>1,574,742</b>	<b>1,574,742</b>	<b>1,574,742</b>	<b>1,574,742</b>	<b>1,574,742</b>	<b>1,574,742</b>	<b>24,076,972</b>	<b>17,926,083</b>
Navy	MS D62604 NCBC GULFPORT MB	1,096,817	1,071,310	1,071,310	1,071,310	1,071,310	1,045,802	16,503,273	12,285,200
Navy	MS N62795 SHIPBUILDING C&R PASCAGOULA TOTAL	194,921	190,388	190,388	190,388	190,388	185,855	2,932,880	2,183,265
Navy	MS N68084 NSPASURSTA HILLANDALE TOTAL	12,528	12,237	12,237	12,237	12,237	11,946	188,507	140,327
Navy	MS D63043 NAS MERIDIAN MB	1,609,101	1,571,680	1,571,680	1,571,680	1,571,680	1,534,259	24,211,358	18,023,174
		<b>2,913,368</b>	<b>2,845,615</b>	<b>2,845,615</b>	<b>2,845,615</b>	<b>2,845,615</b>	<b>2,777,862</b>	<b>43,836,018</b>	<b>32,631,964</b>
Navy	NC N68093 NRMCC CAMP LEJEUNE TOTAL	897,064	876,202	876,202	876,202	876,202	855,340	13,497,685	10,047,810
Navy	NC N65923 NARF CHERRY POINT TOTAL	5,544,059	5,415,127	5,415,127	5,415,127	5,415,127	5,286,196	83,418,745	62,097,737
		<b>6,441,123</b>	<b>6,291,329</b>	<b>6,291,329</b>	<b>6,291,329</b>	<b>6,291,329</b>	<b>6,141,536</b>	<b>96,916,430</b>	<b>72,145,547</b>
Navy	NM N61762 NAVORDMISTESTSTA WHITE SANDS TOTAL	272,452	272,452	266,529	260,606	260,606	254,683	4,146,004	3,094,240
Navy	NM N66081 NSPASURSTA TRUTH OR CONSEQUENCES TOT	16,615	16,615	16,254	15,893	15,893	15,531	252,837	188,697
		<b>289,067</b>	<b>289,067</b>	<b>282,783</b>	<b>276,499</b>	<b>276,499</b>	<b>270,215</b>	<b>4,398,841</b>	<b>3,282,938</b>
Navy	OH N68640 NWIRP TOLEDO TOTAL	755,530	755,530	755,530	755,530	738,741	721,951	11,601,586	8,650,078
Navy	SC B00193 NWS CHARLESTON MB+SHIP	2,426,823	2,370,385	2,370,385	2,370,385	2,370,385	2,313,947	36,515,213	27,182,285
Navy	SC N63028 PMF LANT CHARLESTON TOTAL	616,714	602,371	602,371	602,371	602,371	588,029	9,279,389	6,907,669
Navy	SC N68356 NRRC CHARLESTON TOTAL	160,782	157,043	157,043	157,043	157,043	153,304	2,419,205	1,800,880
Navy	SC N68084 NRMCC CHARLESTON TOTAL	715,038	698,410	698,410	698,410	698,410	681,781	10,758,834	8,008,982
Navy	SC D61337 NH BEAUFORT MB	426,926	416,997	416,997	416,997	416,997	407,069	6,423,747	4,781,900
Navy	SC N45610 NAVCONBRIG CHARLESTON TOTAL	218,777	213,689	213,689	213,689	213,689	208,602	3,291,835	2,450,475
		<b>4,813,526</b>	<b>4,701,584</b>	<b>4,701,584</b>	<b>4,701,584</b>	<b>4,701,584</b>	<b>4,589,641</b>	<b>72,426,776</b>	<b>53,915,206</b>
Navy	TN N63101 NARU MILLINGTON TOTAL	30,322	29,617	29,617	29,617	29,617	28,911	456,236	339,626
Navy	TN N60002 NRMCC MEMPHIS TOTAL	426,694	416,771	416,771	416,771	416,771	406,848	6,420,253	4,779,300
Navy	TN N94307 RAYTHEON CO BRISTOL TOTAL	1,381,770	1,349,635	1,349,635	1,349,635	1,349,635	1,317,501	20,790,813	15,476,886
		<b>1,838,785</b>	<b>1,796,023</b>	<b>1,796,023</b>	<b>1,796,023</b>	<b>1,796,023</b>	<b>1,753,260</b>	<b>27,667,302</b>	<b>20,595,812</b>
Navy	TX N66082 NSPASURSTA ARCHER CITY TOTAL	649,283	649,283	649,283	649,283	634,855	620,426	9,970,107	7,433,656

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		2006	2007	2008	2009	2010	2011	Total	NPV
Navy	TX N91961	7,095,632	7,095,632	7,095,632	7,095,632	6,937,952	6,780,271	108,957,378	81,238,013
Navy	TX N95918	1,232,467	1,232,467	1,232,467	1,232,467	1,205,079	1,177,691	18,925,219	14,110,537
Navy	TX D00216	1,685,266	1,685,266	1,685,266	1,685,266	1,628,260	1,591,255	25,571,091	19,065,663
Navy	TX N68359	280,702	280,702	280,702	280,702	274,464	268,226	4,310,334	3,213,761
Navy	TX D60241	1,048,418	1,048,418	1,048,418	1,048,418	1,025,120	1,001,822	16,099,042	12,003,356
Navy	TX N00285	460,326	460,326	460,326	460,326	450,096	439,867	7,068,557	5,270,277
		<b>12,432,095</b>	<b>12,432,095</b>	<b>12,432,095</b>	<b>12,432,095</b>	<b>12,155,826</b>	<b>11,879,558</b>	<b>190,901,727</b>	<b>142,335,263</b>
Navy	UT N63319	411,366	411,366	411,366	398,096	398,096	398,096	6,077,605	4,497,997
Navy	VA N63273	344,980	336,958	336,958	336,958	336,958	328,935	5,190,752	3,864,047
Navy	VA B61414	2,009,376	1,962,646	1,962,646	1,962,646	1,962,646	1,915,916	30,234,094	22,506,558
Navy	VA B00181	2,734,921	2,671,319	2,671,319	2,671,319	2,671,319	2,607,716	41,151,026	30,633,230
Navy	VA N68593	247,321	241,569	241,569	241,569	241,569	235,817	3,721,314	2,770,183
Navy	VA N30018	11,382	11,117	11,117	11,117	11,117	10,852	171,254	127,483
Navy	VA N55631	24,046	23,486	23,486	23,486	23,486	22,927	361,802	269,329
Navy	VA B00187	19,265,955	18,817,910	18,817,910	18,817,910	18,817,910	18,369,864	289,885,417	215,793,563
Navy	VA N65887	1,390,553	1,358,215	1,358,215	1,358,215	1,358,215	1,325,876	20,922,974	15,575,268
Navy	VA N57023	44,675	43,636	43,636	43,636	43,636	42,597	672,204	500,395
Navy	VA N63061	37,630	36,755	36,755	36,755	36,755	35,880	566,197	421,483
Navy	VA N61414	3,106,940	3,034,686	3,034,686	3,034,686	3,034,686	2,962,431	46,748,611	34,800,127
Navy	VA N62470	191,946	187,482	187,482	187,482	187,482	183,019	2,888,122	2,149,946
Navy	VA N0387A	179,923	175,738	175,738	175,738	175,738	171,554	2,707,206	2,015,271
Navy	VA D00178	3,336,763	3,259,164	3,259,164	3,259,164	3,259,164	3,181,564	50,206,639	37,374,317
Navy	VA N68724	602,868	588,847	588,847	588,847	588,847	574,827	9,071,055	6,752,583
Navy	VA N00183	1,493,318	1,458,590	1,458,590	1,458,590	1,458,590	1,423,862	22,469,232	16,726,318
Navy	VA D60191	3,063,489	2,992,245	2,992,245	2,992,245	2,992,245	2,921,001	46,094,825	34,313,442
Navy	VA N45004	270,127	263,845	263,845	263,845	263,845	257,563	4,064,468	3,025,630
Navy	VA D00109	1,512,693	1,477,514	1,477,514	1,477,514	1,477,514	1,442,335	22,760,755	16,943,331
Navy	VA D00281	1,940,085	1,894,966	1,894,966	1,894,966	1,894,966	1,849,848	28,191,504	21,730,444
Navy	VA N42063	142,548	139,233	139,233	139,233	139,233	135,918	2,144,848	1,596,646
Navy	VA N00182	795,403	776,906	776,906	776,906	776,906	758,408	11,968,048	8,909,133
Navy	VA N64619	1,720,000	1,680,000	1,680,000	1,680,000	1,680,000	1,640,000	25,880,000	19,265,327
Navy	VA N63393	2,467,414	2,410,032	2,410,032	2,410,032	2,410,032	2,352,650	37,125,967	27,636,936
Navy	VA N32528	63,626	62,146	62,146	62,146	62,146	60,666	957,344	712,657
Navy	VA N0552A	6,364	6,216	6,216	6,216	6,216	6,068	95,756	71,282
Navy	VA N68722	83,048	81,117	81,117	81,117	81,117	79,186	1,249,587	930,205

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		2006	2007	2008	2009	2010	2011	Total	NPV
Navy	VA N53989	58,849	57,480	57,480	57,480	57,480	56,112	885,470	659,152
Navy	VA N67230	56,131	54,826	54,826	54,826	54,826	53,520	844,579	628,713
Navy	VA N62753	104,085	101,664	101,664	101,664	101,664	99,244	1,566,114	1,165,831
Navy	VA N63401	17,267	16,865	16,865	16,865	16,865	16,464	259,806	193,402
Navy	VA N57095	804,341	785,635	785,635	785,635	785,635	766,930	12,102,523	9,009,238
Navy	VA D63891	767,063	749,224	749,224	749,224	749,224	731,385	11,541,617	8,591,694
Navy	VA N64590	136,285	133,116	133,116	133,116	133,116	129,946	2,050,616	1,526,499
Navy	VA N70272	263,706	257,573	257,573	257,573	257,573	251,440	3,967,850	2,953,706
Navy	VA N61797	739,152	721,962	721,962	721,962	721,962	704,773	11,121,657	8,279,071
Navy	VA N63102	112,507	109,891	109,891	109,891	109,891	107,274	1,692,840	1,260,166
Navy	VA N00188	1,838,279	1,795,528	1,795,528	1,795,528	1,795,528	1,752,777	27,659,681	20,590,140
Navy	VA N62688	2,607,040	2,546,411	2,546,411	2,546,411	2,546,411	2,485,783	39,226,862	29,200,863
Navy	VA N60951	69,252	67,641	67,641	67,641	67,641	66,031	1,042,001	775,676
Navy	VA N68057	112,976	110,349	110,349	110,349	110,349	107,722	1,699,899	1,265,422
Navy	VA N61720	222,506	217,331	217,331	217,331	217,331	212,157	3,347,937	2,492,238
Navy	VA N57074	741,567	724,321	724,321	724,321	724,321	707,075	11,157,989	8,306,117
Navy	VA N63367	153,791	150,214	150,214	150,214	150,214	146,638	2,314,017	1,722,577
		<b>55,892,188</b>	<b>54,592,370</b>	<b>54,592,370</b>	<b>54,592,370</b>	<b>54,592,370</b>	<b>53,292,552</b>	<b>840,982,462</b>	<b>626,035,639</b>
Navy	WV N91571	835,812	835,812	835,812	835,812	817,238	798,665	12,834,358	9,569,225
Navy	WV D70310	172,800	172,800	172,800	172,800	168,960	165,120	2,653,440	1,978,390
		<b>1,008,612</b>	<b>1,008,612</b>	<b>1,008,612</b>	<b>1,008,612</b>	<b>986,198</b>	<b>963,785</b>	<b>15,487,798</b>	<b>11,547,616</b>
		<b>145,140,385</b>	<b>141,688,137</b>	<b>142,819,561</b>	<b>142,792,636</b>	<b>142,151,189</b>	<b>139,018,341</b>	<b>2,196,922,257</b>	<b>1,636,146,866</b>
USAF	AL FP3300	3,200,644	3,126,210	3,126,210	3,126,210	3,126,210	3,051,777	48,158,525	35,849,681
USAF	AL FG4444	1,639,160	1,601,040	1,601,040	1,601,040	1,601,040	1,562,920	24,663,640	18,359,857
		<b>4,839,804</b>	<b>4,727,250</b>	<b>4,727,250</b>	<b>4,727,250</b>	<b>4,727,250</b>	<b>4,614,697</b>	<b>72,822,165</b>	<b>54,209,538</b>
USAF	AR FP4460	2,297,512	2,349,728	2,349,728	2,349,728	2,349,728	2,297,512	35,402,575	26,317,024
USAF	CO FB2510	1,082,289	1,082,289	1,058,761	1,035,233	1,035,233	1,011,705	16,469,614	12,291,581
USAF	CO FP4500	3,104,157	3,104,157	3,036,675	2,969,193	2,969,193	2,901,712	47,237,167	35,253,983
USAF	CO FB7000	2,736,456	2,736,456	2,676,968	2,617,480	2,617,480	2,557,992	41,641,724	31,077,999
USAF	CO FY1623	2,082,470	2,082,470	2,037,199	1,991,927	1,991,927	1,946,656	31,689,755	23,650,658

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		2006	2007	2008	2009	2010	2011	Total	NPV
USAF	DC	FP4200	BOLLING AFB	4,204,773	4,204,773	4,204,773	4,017,894	64,566,625	48,140,516
USAF	DE	FP4497	DOVER AFB	2,631,150	2,586,554	2,452,767	2,452,767	39,511,848	29,476,724
USAF	FL	FP4814	MACDILL AFB	4,153,381	3,926,833	4,077,865	4,002,349	62,829,327	46,810,745
USAF	FL	FP4417	HURLBURT FLD	2,937,116	2,776,909	2,883,714	2,830,312	44,430,552	33,102,809
USAF	FL	EY815F	CAPE CANAVERAL	7,813,022	7,386,857	7,670,967	7,528,912	118,189,716	88,056,788
USAF	FL	FP2823	EGLIN AFB	10,179,807	9,624,545	9,994,720	9,809,632	153,982,720	114,731,676
USAF	FL	FP2586	TYNDALL AFB	3,486,038	3,295,890	3,422,655	3,359,273	52,734,247	39,289,446
USAF	FL	FP2829	PATRICK AFB	3,100,327	2,931,218	3,043,957	2,987,588	46,899,490	34,942,282
				31,669,691	29,942,253	31,093,878	30,518,066	479,076,051	356,933,746
USAF	GA	FP4830	MOODY AFB	1,592,661	1,555,622	1,555,622	1,518,584	23,963,989	17,839,029
USAF	GA	FP6703	DOBBINS ARB	825,098	805,910	805,910	786,722	12,414,852	9,241,738
USAF	GA	FP2065	ROBINS AFB	9,404,288	9,185,584	9,185,584	8,966,879	141,501,732	105,335,285
				11,822,047	11,547,116	11,547,116	11,272,185	177,880,573	132,416,053
USAF	ID	FP4897	MT HOME AFB	1,714,451	1,714,451	1,659,146	1,659,146	25,329,635	18,746,302
USAF	KS	FP4621	MCCONNELL AFB	2,241,581	2,292,526	2,292,526	2,241,581	34,540,724	25,676,354
USAF	LA	FP4608	BARKSDALE AFB	2,691,176	2,752,339	2,752,339	2,691,176	41,468,571	30,826,270
USAF	MN	FP6633	MPLS-ST PAUL IAP	222,941	222,941	222,941	222,941	3,408,644	2,537,846
USAF	MO	FP4625	WHITEMAN AFB	3,009,885	3,079,883	3,009,885	2,939,888	46,338,235	34,439,816
USAF	MS	FB3010	KEESLER AFB	5,353,185	5,228,692	5,228,692	5,104,199	80,546,755	59,959,799
USAF	MS	FP3022	COLUMBUS AFB	1,238,290	1,209,493	1,209,493	1,180,695	18,631,947	13,869,805
				6,591,475	6,438,185	6,438,185	6,284,895	99,178,702	73,829,604
USAF	NC	FP4488	POPE AFB	2,320,440	2,266,476	2,266,476	2,212,512	34,914,521	25,990,714
USAF	NC	FP4809	SEYMOUR JOHNSON	2,751,590	2,687,600	2,687,600	2,623,609	41,401,832	30,819,932
				5,072,030	4,954,075	4,954,075	4,836,121	76,316,353	56,810,646

DOD Electric Power Usage and Cost Baseline  
Group of 31 - Main Base Only

		2006	2007	2008	2009	2010	2011	Total	NPV
USAF	ND	FB4659	GRAND FORKS AFB						
USAF	ND	FP4528	MINOT AFB						
		4,526,559	4,526,559	4,526,559	4,526,559	4,526,559	4,526,559	69,208,706	51,528,117
		1,503,957	1,503,957	1,503,957	1,503,957	1,503,957	1,503,957	22,994,707	17,120,302
		6,030,516	6,030,516	6,030,516	6,030,516	6,030,516	6,030,516	92,203,413	68,648,420
USAF	NM	FP4855	CANNON AFB						
USAF	NM	FP4801	HOLLOWMAN AFB						
USAF	NM	FP4469	KIRTLAND AFB						
		1,861,179	1,861,179	1,820,719	1,780,258	1,780,258	1,739,798	28,322,288	21,137,454
		3,488,540	3,488,540	3,412,702	3,336,864	3,336,864	3,261,026	53,086,476	39,619,432
		5,061,869	5,061,869	4,951,828	4,841,788	4,841,788	4,731,747	77,028,439	57,487,768
		10,411,588	10,411,588	10,185,249	9,958,910	9,958,910	9,732,571	158,437,204	118,244,654
USAF	OH	FP2006	NEWARK AFB						
USAF	OH	FP2300	WRIGHT PATTERSON						
USAF	OH	FP6656	YOUNGSTOWN MAP						
		1,568,963	1,568,963	1,568,963	1,568,963	1,534,097	1,499,231	24,092,295	17,963,081
		14,180,833	14,180,833	14,180,833	14,180,833	13,865,703	13,550,574	217,754,567	162,356,591
		327,527	327,527	327,527	327,527	320,249	312,970	5,029,361	3,749,863
		16,077,323	16,077,323	16,077,323	16,077,323	15,720,049	15,362,775	246,876,223	184,069,535
USAF	OK	FP3029	VANCE AFB						
USAF	OK	FP2039	TINKER AFB						
USAF	OK	FP4419	ALTUS AFB						
		10,329,150	10,563,904	10,563,904	10,563,904	10,563,904	10,329,150	159,162,817	118,316,014
		1,606,759	1,643,276	1,643,276	1,643,276	1,643,276	1,606,759	24,758,696	18,404,739
		11,935,909	12,207,180	12,207,180	12,207,180	12,207,180	11,935,909	183,921,512	136,720,754
USAF	SC	FP4418	CHARLESTON AFB						
USAF	SC	FP4803	SHAW AFB						
USAF	SD	FP4890	ELLSWORTH AFB						
		1,975,087	1,927,202	1,927,202	1,927,202	1,927,202	1,881,316	29,688,084	22,100,102
		2,866,989	2,800,315	2,800,315	2,800,315	2,800,315	2,733,640	43,138,179	32,112,486
		1,441,022	1,441,022	1,441,022	1,441,022	1,441,022	1,441,022	22,032,461	16,403,879
		6,281,098	6,168,538	6,168,538	6,168,538	6,168,538	6,055,978	94,858,723	70,616,467
USAF	TN	EY7483	ARNOLD AFB						
		17,528,231	17,218,272	17,218,272	17,218,272	17,218,272	16,808,314	265,243,387	197,449,793
USAF	TX	FP4661	DYESS AFB						
USAF	TX	FP3090	WILFORD HALL						
USAF	TX	FB3047	LACKLAND AFB						
USAF	TX	FP3089	RANDOLPH AFB						
USAF	TX	FG2857	BROOKS AFB						
USAF	TX	FP3030	GOODFELLOW AFB						
USAF	TX	FY4006	ELDORADO AFS						
USAF	TX	FP3099	LAUGHLIN AFB						
USAF	TX	FP3020	SHEPPARD AFB						
		2,002,670	2,002,670	2,002,670	2,002,670	1,958,166	1,913,663	30,752,112	22,928,603
		419,026	419,026	419,026	419,026	409,714	400,402	6,434,371	4,797,431
		4,771,689	4,771,689	4,771,689	4,771,689	4,665,652	4,559,614	73,271,940	54,631,150
		2,168,430	2,168,430	2,168,430	2,168,430	2,120,243	2,072,056	33,297,452	24,826,394
		1,954,006	1,954,006	1,954,006	1,954,006	1,910,584	1,867,161	30,004,851	22,371,449
		1,304,863	1,304,863	1,304,863	1,304,863	1,275,866	1,246,869	20,036,899	14,939,400
		210,717	210,717	210,717	210,717	206,034	201,352	3,235,677	2,412,502
		1,669,550	1,669,550	1,669,550	1,669,550	1,632,449	1,595,348	25,636,874	19,114,710
		4,016,747	4,016,747	4,016,747	4,016,747	3,927,486	3,838,225	61,679,379	45,987,801
		18,517,699	18,517,699	18,517,699	18,517,699	18,106,194	17,694,690	284,349,554	212,009,442



DOD Electric Power Usage and Cost Baseline  
Group of 31 - Main Base Only

		2006	2007	2008	2009	2010	2011	Total	NPV
USAF	UT	FP2027	HILL AFB						
		9,405,993	9,405,993	9,405,993	9,102,574	9,102,574	9,102,574	138,965,957	102,847,821
USAF	VA	FP4800	LANGLEY AFB						
		3,723,455	3,636,863	3,636,863	3,636,863	3,636,863	3,550,271	56,025,010	41,705,570
USAF	WI	FP6605	GEN MITCHELL FLD						
		201,301	205,983	205,983	201,301	201,301	196,620	3,099,102	2,303,335
USAF	WY	FP4613	F E WARREN AFB						
		2,574,859	2,574,859	2,518,884	2,462,909	2,462,909	2,406,933	39,182,637	29,242,736
TOTAL (AIR FORCE)		190,801,858	188,272,259	188,812,014	187,945,124	187,127,502	183,344,083	2,896,041,682	2,156,493,184
USMC	GA	K67004	MCLB ALBANY MB						
		2,690,009	2,627,451	2,627,451	2,627,451	2,627,451	2,564,893	40,475,256	30,130,180
USMC	LA	M68479	FOURTH MARDIV NEW ORLEANS TOTAL						
		233,228	238,528	238,528	238,528	238,528	233,228	3,593,824	2,671,522
USMC	LA	M67021	MAW 4 NEW ORLEANS TOTAL						
		34,100	34,875	34,875	34,875	34,875	34,100	525,450	390,601
		267,328	273,403	273,403	273,403	273,403	267,328	4,119,274	3,062,123
USMC	NC	K67001	MCB CAMP LEJUNE MB						
		11,402,650	11,137,472	11,137,472	11,137,472	11,137,472	10,872,294	171,570,108	127,718,481
USMC	NC	K00146	MCAS CHERRY POINT MB						
		3,349,863	3,271,960	3,271,960	3,271,960	3,271,960	3,194,056	50,403,759	37,521,055
		14,752,514	14,409,432	14,409,432	14,409,432	14,409,432	14,066,350	221,973,867	165,239,536
USMC	SC	K00263	MCRD PARRIS ISLAND MB						
		1,942,127	1,896,961	1,896,961	1,896,961	1,896,961	1,851,795	29,222,229	21,753,316
USMC	SC	K60169	MCAS BEAUFORT MB						
		1,558,068	1,521,834	1,521,834	1,521,834	1,521,834	1,485,599	23,443,484	17,451,561
		3,500,194	3,418,794	3,418,794	3,418,794	3,418,794	3,337,395	52,665,714	39,204,877
USMC	VA	M67353	HQBN ARLINGTON TOTAL						
		354,553	346,308	346,308	346,308	346,308	338,062	5,334,788	3,971,269
USMC	VA	K00264	MCB QUANTICO MB						
		4,092,944	3,997,759	3,997,759	3,997,759	3,997,759	3,902,574	61,584,522	45,844,126
USMC	VA	M67391	MCB CAMP ELMORE NORFOLK TOTAL						
		146,737	143,325	143,325	143,325	143,325	139,912	2,207,880	1,643,568
		4,594,234	4,487,391	4,487,391	4,487,391	4,487,391	4,380,548	69,127,191	51,458,963
TOTAL (MARINE CORPS)		25,804,278	25,216,471	25,216,471	25,216,471	25,216,471	24,616,513	388,361,302	289,095,678
TOTAL (ALL SERVICES)		579,666,730	571,282,006	572,726,733	571,291,893	568,344,422	555,956,631	8,792,115,651	6,547,080,359

**APPENDIX A-4.1**

**USAGE AND COST**

**BASELINE -- MILITARY**

**FAMILY HOUSING**

**31-STATE SUBGROUP**

**(SORTED BY SERVICE)**

DOD Electric Power Usage and Costs Baseline  
Group of 31 - Military Family Housing Only

FY 1996 Baseline Total Costs (1996 \$)

		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Navy	DC	D00173			708	47,544	67.15	46,340	45,739	45,739	45,137	44,535	43,933	43,331	43,331
Navy	FL	B60201			26,756	1,309,925	48.96	1,346,312	1,328,118	1,328,118	1,309,925	1,273,538	1,273,538	1,255,345	1,218,958
Navy	FL	D61331			1,813	95,589	52.72	98,244	96,917	96,917	95,589	92,934	92,934	91,606	88,951
Navy	FL	D60508			5,104	355,757	69.70	365,639	360,698	360,698	355,757	345,875	345,875	340,934	331,052
Navy	FL	D00213			20,819	1,816,859	87.27	1,867,327	1,842,093	1,842,093	1,816,859	1,766,391	1,766,391	1,741,157	1,690,688
Navy	FL	B00204			11,873	562,969	47.42	578,607	570,788	570,788	562,969	547,331	547,331	539,512	523,874
Navy	FL	D00207			7,328	348,069	47.50	357,738	352,903	352,903	348,069	338,400	338,400	333,566	323,898
					<b>73,693</b>	<b>4,489,168</b>	<b>60.92</b>	<b>4,613,867</b>	<b>4,551,518</b>	<b>4,551,518</b>	<b>4,489,168</b>	<b>4,364,469</b>	<b>4,364,469</b>	<b>4,302,119</b>	<b>4,177,420</b>
Navy	GA	B42237			12,326	393,647	31.94	393,647	399,996	399,996	399,996	393,647	393,647	393,647	393,647
Navy	GA	D62741			722	42,945	59.48	42,945	43,638	43,638	43,638	42,945	42,945	42,945	42,945
Navy	GA	D00196			139	9,124	65.64	9,124	9,271	9,271	9,271	9,124	9,124	9,124	9,124
					<b>13,187</b>	<b>445,716</b>	<b>33.80</b>	<b>445,716</b>	<b>452,905</b>	<b>452,905</b>	<b>452,905</b>	<b>445,716</b>	<b>445,716</b>	<b>445,716</b>	<b>445,716</b>
Navy	LA	D00205			4,577	298,936	65.31	294,896	286,817	286,817	282,777	278,738	278,738	274,698	274,698
Navy	LA	D00206			3,041	182,116	59.89	179,655	177,194	177,194	172,272	169,811	169,811	167,350	167,350
					<b>7,618</b>	<b>481,052</b>	<b>63.15</b>	<b>474,551</b>	<b>468,051</b>	<b>468,051</b>	<b>455,049</b>	<b>448,548</b>	<b>448,548</b>	<b>442,048</b>	<b>442,048</b>
Navy	MS	D62604			1,671	74,671	44.69	74,671	75,875	75,875	75,875	74,671	74,671	74,671	74,671
Navy	MS	D63043			6,865	393,024	57.25	393,024	399,363	399,363	399,363	393,024	393,024	393,024	393,024
					<b>8,536</b>	<b>467,695</b>	<b>54.79</b>	<b>467,695</b>	<b>475,238</b>	<b>475,238</b>	<b>475,238</b>	<b>467,695</b>	<b>467,695</b>	<b>467,695</b>	<b>467,695</b>
Navy	SC	B00193			28,752	1,249,713	43.47	1,249,713	1,269,870	1,269,870	1,269,870	1,249,713	1,249,713	1,249,713	1,249,713
Navy	SC	D61337			568	24,640	43.38	24,640	25,037	25,037	25,037	24,640	24,640	24,640	24,640
					<b>29,320</b>	<b>1,274,353</b>	<b>43.46</b>	<b>1,274,353</b>	<b>1,294,907</b>	<b>1,294,907</b>	<b>1,294,907</b>	<b>1,274,353</b>	<b>1,274,353</b>	<b>1,274,353</b>	<b>1,274,353</b>
Navy	TX	D00216			10,815	493,121	45.60	480,637	474,395	474,395	468,153	461,911	455,669	449,427	449,427
Navy	TX	D60241			3,839	246,846	64.30	240,597	237,472	237,472	234,347	231,223	228,098	224,974	224,974
					<b>14,654</b>	<b>739,967</b>	<b>50.50</b>	<b>721,234</b>	<b>711,867</b>	<b>711,867</b>	<b>702,500</b>	<b>693,134</b>	<b>683,767</b>	<b>674,400</b>	<b>674,400</b>
Navy	VA	D00109			6,629	402,196	60.67	402,196	408,683	408,683	408,683	402,196	395,709	389,222	402,196
Navy	VA	B61414			11,414	492,452	43.14	492,452	492,452	492,452	500,395	492,452	484,509	476,566	492,452
Navy	VA	B00187			22,297	1,090,306	48.90	1,090,306	1,107,892	1,107,892	1,107,892	1,090,306	1,072,720	1,055,135	1,090,306
Navy	VA	D60191			2,992	134,613	44.99	134,613	136,784	136,784	136,784	134,613	132,442	130,271	134,613
Navy	VA	D00281			327	14,370	43.94	14,370	14,602	14,602	14,602	14,370	14,138	13,906	14,370
Navy	VA	D00178			2,809	105,307	37.49	105,307	107,006	107,006	107,006	105,307	103,609	101,910	105,307

DOD Electric Power Usage and Costs Baseline  
Group of 31 - Military Family Housing Only

		Baseline Total Costs (1996 \$)														
FY 1996		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
Navy	VA	B00181	NSY PORTSMOUTH MFH	1,479	82,673	55.90	82,673	82,673	84,006	84,006	84,006	81,340	80,006	82,673	82,673	
Navy	VA	D63891	NSGA NORTHWEST CHESAPEAKE MFH	2,167	106,074	48.95	106,074	106,074	107,785	107,785	106,074	104,363	102,652	106,074	106,074	
		50,114	2,427,991	48.45	2,427,991	2,427,991	2,467,152	2,467,152	2,467,152	2,427,991	2,427,991	2,388,830	2,349,669	2,427,991	2,427,991	
Navy	WV	D70310	NRS SUGAR GROVE MFH	1,200	48,000	40.00	46,785	46,177	46,177	45,570	44,962	44,354	43,747	43,747	43,747	
TOTAL (NAVY)				199,030	10,421,486		10,518,532	10,439,106	10,507,053	10,427,626	10,211,403	10,200,827	10,119,878	9,972,505	10,121,400	9,996,701
USAF	AL	RG4444	GUNTER AFB	4,186	218,579	52.22	218,579	218,579	222,104	222,104	218,579	215,054	211,528	218,579	218,579	
USAF	AL	RP3300	MAXWELL AFB	8,092	480,365	59.36	480,365	480,365	488,113	488,113	480,365	472,617	464,869	480,365	480,365	
		12,278	698,944	56.93	698,944	698,944	710,217	710,217	710,217	698,944	698,944	687,671	676,397	698,944	698,944	
USAF	AR	RP4460	LITTLE ROCK AFB	38,625	2,333,280	60.41	2,301,749	2,270,218	2,238,688	2,207,157	2,175,626	2,144,095	2,144,095	2,144,095	2,144,095	
USAF	CO	RP4500	PETERSON AFB	3,802	276,821	72.81	269,536	265,894	265,894	262,251	258,609	254,967	258,609	264,967	251,324	
USAF	CO	RB7000	USAF ACADEMY	10,966	444,710	40.55	433,007	427,156	427,156	421,304	415,453	409,601	415,453	409,601	403,750	
		14,768	721,531	48.86	702,543	693,050	693,050	683,556	683,556	674,062	674,062	664,568	674,062	664,568	655,074	
USAF	DC	RP4200	BOLLING AFB	17,937	1,101,166	61.39	1,073,288	1,059,350	1,059,350	1,045,411	1,031,472	1,017,533	1,003,594	1,003,594	1,003,594	
USAF	DE	RP4497	DOVER AFB	22,541	1,214,351	53.87	1,186,752	1,172,953	1,172,953	1,172,953	1,159,153	1,117,755	1,117,755	1,131,554	1,131,554	
USAF	FL	RP4814	MACDILL AFB	12,164	686,115	56.40	705,174	695,644	695,644	686,115	667,056	667,056	657,527	657,527	638,468	
USAF	FL	RP2829	PATRICK AFB	30,215	1,450,156	47.99	1,490,438	1,470,297	1,470,297	1,450,156	1,409,874	1,409,874	1,389,733	1,389,733	1,349,451	
USAF	FL	RP4417	HURLBURT FLD	10,626	501,727	47.22	515,664	508,695	508,695	501,727	487,790	487,790	480,822	480,822	466,885	
USAF	FL	RP2823	EGLIN AFB	36,573	1,649,642	45.11	1,695,465	1,672,554	1,672,554	1,649,642	1,603,819	1,603,819	1,580,907	1,580,907	1,535,084	
USAF	FL	RP2586	TYNDALL AFB	18,401	874,742	47.54	899,040	886,891	886,891	874,742	850,444	850,444	838,294	838,294	813,996	
		107,979	5,162,382	47.81	5,305,782	5,234,082	5,234,082	5,162,382	5,162,382	5,018,983	5,018,983	5,018,983	4,947,283	4,947,283	4,803,883	
USAF	GA	RP4830	MOODY AFB	4,786	214,289	44.78	214,289	214,289	217,745	217,745	214,289	210,833	207,376	214,289	214,289	
USAF	GA	RP2065	ROBINS AFB	28,410	1,421,262	50.03	1,421,262	1,421,262	1,444,186	1,444,186	1,421,262	1,398,338	1,375,415	1,421,262	1,421,262	
		33,196	1,635,551	49.27	1,635,551	1,635,551	1,661,931	1,661,931	1,661,931	1,635,551	1,635,551	1,609,171	1,582,791	1,635,551	1,635,551	
USAF	ID	RP4897	MT HOME AFB	24,634	707,381	28.72	770,259	801,698	880,296	864,577	864,577	880,296	864,577	864,577	848,857	
USAF	KS	RP4621	MCCONNELL AFB	5,819	347,079	59.65	342,389	337,698	333,008	328,318	323,628	318,937	318,937	318,937	318,937	

DOD Electric Power Usage and Costs Baseline  
Group of 31 - Military Family Housing Only

		Baseline Total Costs (1996 \$)													
	FY 1996				1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
	MWh	\$	\$/MWh												
USAF LA	RP4608	BARKSDALE AFB	8,405	329,483	39.20	325,031	320,578	316,126	311,673	311,673	307,221	302,768	302,768	302,768	302,768
USAF MO	RP4625	WHITEMAN AFB	11,219	485,572	43.28	485,572	485,572	491,878	491,878	485,572	479,266	485,572	479,266	466,654	472,960
USAF MS	RB3010	KEESLER AFB	24,858	1,088,680	43.80	1,088,680	1,088,680	1,106,239	1,106,239	1,088,680	1,088,680	1,071,121	1,053,561	1,088,680	1,088,680
USAF MS	RP3022	COLUMBUS AFB	15,993	853,842	53.39	853,842	853,842	867,614	867,614	853,842	853,842	840,070	826,299	853,842	853,842
	40,851		1,942,522	47.55	1,942,522	1,942,522	1,973,853	1,973,853	1,973,853	1,942,522	1,942,522	1,911,191	1,879,860	1,942,522	1,942,522
USAF NC	RP4488	POPE AFB	6,080	391,541	64.40	391,541	391,541	397,856	397,856	391,541	391,541	385,226	378,911	391,541	391,541
USAF NC	RP4809	SEYMOUR JOHNSON	38,816	2,409,012	62.06	2,409,012	2,409,012	2,447,867	2,447,867	2,409,012	2,409,012	2,370,157	2,331,302	2,409,012	2,409,012
	44,896		2,800,553	62.38	2,800,553	2,800,553	2,845,723	2,845,723	2,845,723	2,800,553	2,800,553	2,755,383	2,710,213	2,800,553	2,800,553
USAF ND	RB4659	GRAND FORKS AFB	40,935	1,604,836	39.20	1,579,760	1,554,685	1,529,609	1,479,458	1,479,458	1,454,383	1,479,458	1,454,383	1,454,383	1,454,383
USAF ND	RP4528	MINOT AFB	25,621	613,052	23.93	603,473	593,894	584,315	565,157	555,578	555,578	565,157	555,578	555,578	555,578
	66,557		2,217,888	33.32	2,183,234	2,148,579	2,113,925	2,044,616	2,044,616	2,009,961	2,009,961	2,044,616	2,009,961	2,009,961	2,009,961
USAF NM	RP4469	KIRTLAND AFB	16,170	924,933	57.20	900,593	888,422	888,422	876,252	864,082	864,082	851,912	864,082	851,912	839,742
USAF NM	RP4855	CANNON AFB	15,608	663,644	42.52	646,180	637,448	637,448	628,715	619,983	619,983	611,251	619,983	611,251	602,519
USAF NM	RP4801	HOLLOWMAN AFB	13,512	933,463	69.08	908,898	896,616	896,616	884,333	872,051	872,051	859,769	872,051	859,769	847,486
	45,290		2,522,040	55.69	2,455,671	2,422,486	2,422,486	2,389,301	2,389,301	2,356,116	2,356,116	2,322,932	2,356,116	2,322,932	2,289,747
USAF OH	RP2300	WRIGHT PATTERSON	29,630	1,488,354	50.23	1,450,674	1,431,834	1,431,834	1,412,994	1,394,154	1,375,314	1,375,314	1,356,475	1,356,475	1,356,475
USAF OK	RP3029	VANCE AFB	0	0	NA	0	0	0	0	0	0	0	0	0	0
USAF OK	RP2039	TINKER AFB	6,309	212,959	33.76	210,081	207,203	204,326	201,448	198,570	198,570	195,692	195,692	195,692	195,692
USAF OK	RP4419	ALTUS AFB	12,034	548,388	45.57	540,977	533,567	526,156	518,745	511,335	511,335	503,924	503,924	503,924	503,924
	18,342		761,347	41.51	751,059	740,770	730,482	720,193	720,193	709,905	709,905	699,616	699,616	699,616	699,616
USAF SC	RP4418	CHARLESTON AFB	16,655	738,401	44.33	738,401	738,401	750,311	750,311	738,401	738,401	726,491	714,582	738,401	738,401
USAF SC	RP4803	SHAW AFB	32,155	1,993,249	61.99	1,993,249	1,993,249	2,025,398	2,025,398	1,993,249	1,993,249	1,961,100	1,928,951	1,993,249	1,993,249
	48,810		2,731,650	55.96	2,731,650	2,731,650	2,775,709	2,775,709	2,775,709	2,731,650	2,731,650	2,687,591	2,643,532	2,731,650	2,731,650
USAF SD	RP4690	ELLSWORTH AFB	19,517	599,114	30.70	589,753	580,392	571,031	552,308	542,947	542,947	552,308	542,947	542,947	542,947
USAF TN	RY7483	ARNOLD AFB	1,257	47,467	37.77	47,467	47,467	48,233	48,233	47,467	47,467	46,701	45,936	47,467	47,467

EY 1996	Baseline Total Costs (1996 \$)
1996	1996

		Baseline Total Costs (1996 \$)														
		FY 1996														
		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
USAF	TX	RP3089			11,273	437,128	38.78	426,061	420,528	420,528	414,995	414,995	409,462	403,928	398,395	398,395
USAF	TX	RP4661			12,546	484,327	38.60	472,066	465,935	465,935	459,804	459,804	453,673	447,543	441,412	441,412
USAF	TX	RP3020			25,082	1,222,867	48.76	1,191,908	1,176,429	1,176,429	1,160,950	1,160,950	1,145,470	1,129,991	1,114,512	1,114,512
USAF	TX	RP3099			3,203	162,507	50.74	158,393	156,336	156,336	154,279	154,279	152,222	150,165	148,108	148,108
USAF	TX	RP3030			4,670	288,556	61.79	281,251	277,598	277,598	273,946	273,946	270,293	266,640	262,988	262,988
USAF	TX	RG2857			2,752	109,854	39.91	107,073	105,682	105,682	104,292	104,292	102,901	101,511	100,120	100,120
USAF	TX	RB3047			12,745	576,324	45.22	561,734	554,438	554,438	547,143	547,143	539,848	532,553	525,257	525,257
					72,272	3,281,563	45.41	3,198,485	3,156,947	3,156,947	3,115,408	3,115,408	3,073,869	3,032,330	2,990,792	2,990,792
USAF	UT	RP2027			9,757	340,436	34.89	370,697	385,827	423,654	416,088	416,088	416,088	423,654	416,088	408,523
USAF	VA	RP4800			27,709	1,420,632	51.27	1,420,632	1,420,632	1,443,545	1,443,545	1,420,632	1,420,632	1,397,719	1,374,805	1,420,632
USAF	WY	RP4613			6,168	221,491	35.91	215,662	212,748	212,748	209,834	209,834	206,919	204,005	204,005	201,091
					728,455	35,111,777		34,985,918	34,732,101	34,941,746	34,587,857	34,587,857	34,021,266	33,962,740	33,344,786	33,458,194
USMC	GA	K67004			9,656	510,317	52.85	510,317	510,317	518,548	518,548	510,317	510,317	502,086	493,855	510,317
USMC	MO	K67443			13,997	163,522	11.68	163,522	163,522	165,646	165,646	163,522	161,398	163,522	161,398	159,275
USMC	NC	K67001			100,144	6,349,992	63.41	6,349,992	6,349,992	6,452,411	6,452,411	6,349,992	6,349,992	6,247,573	6,145,154	6,349,992
USMC	NC	K00146			59,135	3,702,230	62.61	3,702,230	3,702,230	3,761,943	3,761,943	3,702,230	3,702,230	3,642,517	3,582,803	3,702,230
					159,279	10,052,222	63.11	10,052,222	10,052,222	10,214,355	10,214,355	10,052,222	10,052,222	9,890,089	9,727,957	10,052,222
USMC	SC	K00263			6,264	251,674	40.18	251,674	251,674	255,733	255,733	251,674	251,674	247,615	243,555	251,674
USMC	SC	K60169			22,925	1,212,181	52.88	1,212,181	1,212,181	1,231,732	1,231,732	1,212,181	1,212,181	1,192,630	1,173,078	1,212,181
					29,189	1,463,855	50.15	1,463,855	1,463,855	1,487,466	1,487,466	1,463,855	1,463,855	1,440,244	1,416,634	1,463,855
USMC	VA	K00264			22,147	1,185,767	53.54	1,185,767	1,185,767	1,204,892	1,204,892	1,185,767	1,185,767	1,166,642	1,147,516	1,185,767
					234,268	13,375,683		13,375,683	13,375,683	13,590,906	13,590,906	13,375,683	13,375,559	13,162,584	12,947,361	13,374,436
					1,161,753	58,908,946		58,880,134	58,546,890	59,039,704	58,606,390	58,584,161	57,606,228	57,539,250	56,983,171	56,826,331

				2008	2009	2010	2011	Total	NPV
Navy	DC	D00173	NRL WASHINGTON MFH	43,331	42,729	42,729	42,128	661,403	492,531
Navy	FL	B60201	NS MAYPORT MFH	1,255,345	1,255,345	1,237,151	1,218,958	19,139,460	14,255,524
Navy	FL	D61331	NCSC PANAMA CITY MFH	91,606	91,606	90,279	88,951	1,396,662	1,040,267
Navy	FL	D60508	NAS WHITING FIELD MFH	340,934	340,934	335,993	331,052	5,198,005	3,871,598
Navy	FL	D00213	NAS KEY WEST MFH	1,741,157	1,741,157	1,715,922	1,690,688	26,546,329	19,772,336
Navy	FL	B00204	PWC PENSACOLA MFH	539,512	539,512	531,693	523,874	8,225,603	6,126,624
Navy	FL	D00207	NAS JACKSONVILLE MFH	333,566	333,566	328,732	323,898	5,085,675	3,787,931
				4,302,119	4,302,119	4,239,770	4,177,420	65,591,732	48,854,280
Navy	GA	B42237	NAVSUBASE KINGS BAY MFH	387,298	393,647	387,298	380,949	5,879,308	4,364,766
Navy	GA	D62741	NSCS ATHENS MFH	42,252	42,945	42,252	41,560	641,404	476,175
Navy	GA	D00196	NAS ATLANTA MFH	8,977	9,124	8,977	8,830	136,271	101,167
				438,527	445,716	438,527	431,338	6,656,984	4,942,108
Navy	LA	D00205	NSA NEW ORLEANS MFH	274,698	274,698	274,698	270,658	4,189,144	3,116,899
Navy	LA	D00206	NAS NEW ORLEANS MFH	167,350	167,350	167,350	164,889	2,552,085	1,898,859
				442,048	442,048	442,048	435,547	6,741,229	5,015,758
Navy	MS	D62604	NCBC GULFPORT MFH	73,467	74,671	73,467	72,262	1,115,248	827,954
Navy	MS	D63043	NAS MERIDIAN MFH	386,685	393,024	386,685	380,346	5,870,004	4,357,858
				460,152	467,695	460,152	452,608	6,985,251	5,185,812
Navy	SC	B00193	NWS CHARLESTON MFH	1,229,556	1,249,713	1,229,556	1,209,400	18,665,068	13,856,844
Navy	SC	D61337	NH BEAUFORT MFH	24,243	24,640	24,243	23,845	368,010	273,209
				1,253,799	1,274,353	1,253,799	1,233,245	19,033,079	14,130,052
Navy	TX	D00216	NAS CORPUS CHRISTI MFH	449,427	443,185	443,185	436,943	6,860,000	5,108,475
Navy	TX	D60241	NAS KINGSVILLE MFH	224,974	221,849	221,849	218,724	3,433,972	2,557,195
				674,400	665,034	665,034	655,667	10,293,971	7,665,671
Navy	VA	D00109	NWS YORKTOWN MFH	395,709	402,196	395,709	389,222	6,006,992	4,459,558
Navy	VA	B61414	NPB LITTLE CREEK MFH	484,509	492,452	484,509	476,566	7,355,009	5,460,318
Navy	VA	B00187	PWC NORFOLK MFH	1,072,720	1,090,306	1,072,720	1,055,135	16,284,248	12,089,336
Navy	VA	D60191	NAS OCEANA VIRGINIA BEACH MFH	132,442	134,613	132,442	130,271	2,010,510	1,482,582
Navy	VA	D00281	FCTC VIRGINIA BEACH MFH	14,138	14,370	14,138	13,906	214,623	159,335
Navy	VA	D00178	NSWC DAHLGREN MFH	103,609	105,307	103,609	101,910	1,572,811	1,167,646

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		2008	2009	2010	2011	Total	NPV
Navy	VA B00181 NSY PORTSMOUTH MFH	81,340	82,673	81,340	80,006	1,234,761	916,680
Navy	VA D63891 NSGA NORTHWEST CHESAPEAKE MFH	104,363	106,074	104,363	102,652	1,584,267	1,176,151
		2,388,830	2,427,991	2,388,830	2,349,669	36,263,220	26,921,614
Navy	WV D70310 NRS SUGAR GROVE MFH	43,747	43,139	43,139	42,532	667,747	497,255
TOTAL (NAVY)		10,046,953	10,110,824	9,974,027	9,820,153	152,894,617	113,705,082
USAF	AL RG4444 GUNTER AFB	215,054	218,579	215,054	211,528	3,264,583	2,423,608
USAF	AL RP3300 MAXWELL AFB	472,617	480,365	472,617	464,869	7,174,484	5,326,287
		687,671	698,944	687,671	676,397	10,439,067	7,749,906
USAF	AR RP4460 LITTLE ROCK AFB	2,144,095	2,144,095	2,144,095	2,112,564	32,697,451	24,328,281
USAF	CO RP4500 PETERSON AFB	247,682	244,040	247,682	240,397	3,842,713	2,863,290
USAF	CO RB7000 USAF ACADEMY	397,898	392,047	397,898	386,196	6,173,277	4,599,844
		645,580	636,087	645,580	626,593	10,015,990	7,463,134
USAF	DC RP4200 BOLLING AFB	1,003,594	989,656	989,656	975,717	15,318,752	11,407,503
USAF	DE RP4497 DOVER AFB	1,062,557	1,076,357	1,090,156	1,062,557	16,959,516	12,641,340
USAF	FL RP4814 MACDILL AFB	657,527	657,527	647,998	638,468	10,024,903	7,466,785
USAF	FL RP2829 PATRICK AFB	1,389,733	1,389,733	1,369,592	1,349,451	21,188,390	15,781,616
USAF	FL RP4417 HURLBURT FLD	480,822	480,822	473,853	466,885	7,330,789	5,460,146
USAF	FL RP2823 EGLIN AFB	1,580,907	1,580,907	1,557,995	1,535,084	24,103,103	17,952,563
USAF	FL RP2586 TYNDALL AFB	838,294	838,294	826,145	813,996	12,780,953	9,519,557
		4,947,283	4,947,283	4,875,583	4,803,883	75,428,137	56,180,668
USAF	GA RP4830 MOODY AFB	210,833	214,289	210,833	207,376	3,200,510	2,376,041
USAF	GA RP2065 ROBINS AFB	1,398,338	1,421,262	1,398,338	1,375,415	21,227,236	15,758,982
		1,609,171	1,635,551	1,609,171	1,582,791	24,427,746	18,135,023
USAF	ID RP4897 MT HOME AFB	848,857	848,857	848,857	833,138	12,764,297	9,445,277
USAF	KS RP4621 MCCONNELL AFB	318,937	318,937	318,937	314,247	4,863,796	3,618,869



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		2008	2009	2010	2011	Total	NPV
USAF LA	RP4608 BARKSDALE AFB	302,768	302,768	302,768	298,316	4,617,214	3,435,402
USAF MO	RP4625 WHITEMAN AFB	472,960	472,960	460,347	454,041	7,170,070	5,331,860
USAF MS	RB3010 KEESLER AFB	1,071,121	1,088,680	1,071,121	1,053,561	16,259,963	12,071,306
USAF MS	RP3022 COLUMBUS AFB	840,070	853,842	840,070	826,299	12,752,543	9,467,418
		1,911,191	1,942,522	1,911,191	1,879,860	29,012,506	21,538,724
USAF NC	RP4488 POPE AFB	385,226	391,541	385,226	378,911	5,847,854	4,341,415
USAF NC	RP4809 SEYMOUR JOHNSON	2,370,157	2,409,012	2,370,157	2,331,302	35,979,780	26,711,175
		2,755,383	2,800,553	2,755,383	2,710,213	41,827,614	31,052,590
USAF ND	RB4659 GRAND FORKS AFB	1,454,383	1,479,458	1,454,383	1,454,383	22,216,948	16,525,984
USAF ND	RP4528 MINOT AFB	555,578	565,157	555,578	555,578	8,486,939	6,312,974
		2,009,961	2,044,616	2,009,961	2,009,961	30,703,887	22,838,957
USAF NM	RP4469 KIRTLAND AFB	827,572	815,401	827,572	803,231	12,839,530	9,567,017
USAF NM	RP4955 CANNON AFB	593,787	585,055	593,787	576,322	9,212,427	6,864,382
USAF NM	RP4801 HOLLOWMAN AFB	835,204	822,921	835,204	810,639	12,957,940	9,655,246
		2,256,562	2,223,377	2,256,562	2,190,193	35,009,897	26,086,645
USAF OH	RP2300 WRIGHT PATTERSON	1,356,475	1,337,635	1,337,635	1,318,795	20,705,077	15,418,568
USAF OK	RP3029 VANCE AFB	0	0	0	0	0	0
USAF OK	RP2039 TINKER AFB	195,692	195,692	195,692	192,814	2,984,304	2,220,448
USAF OK	RP4419 ALTUS AFB	503,924	503,924	503,924	496,513	7,684,843	5,717,847
		699,616	699,616	699,616	689,328	10,669,146	7,938,294
USAF SC	RP4418 CHARLESTON AFB	726,491	738,401	726,491	714,592	11,028,376	8,187,406
USAF SC	RP4803 SHAW AFB	1,961,100	1,993,249	1,961,100	1,928,951	29,770,138	22,101,186
		2,687,591	2,731,650	2,687,591	2,643,532	40,798,515	30,288,592
USAF SD	RP4690 ELLSWORTH AFB	542,947	552,308	542,947	542,947	8,293,984	6,169,445
USAF TN	RY7483 ARNOLD AFB	46,701	47,467	46,701	45,936	708,943	526,315

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		2008	2009	2010	2011	Total	NPV
USAF TX RP3089	RANDOLPH AFB	398,395	392,862	392,862	387,329	6,081,059	4,528,417
USAF TX RP4661	DYESS AFB	441,412	435,281	435,281	429,151	6,737,663	5,017,374
USAF TX RP3020	SHEPPARD AFB	1,114,512	1,099,032	1,099,032	1,083,553	17,011,783	12,668,262
USAF TX RP3099	LAUGHLIN AFB	148,108	146,051	146,051	143,994	2,260,699	1,883,487
USAF TX RP3030	GOODFELLOW AFB	262,988	259,335	259,335	255,683	4,014,216	2,989,289
USAF TX RG2857	BROOKS AFB	100,120	98,730	98,730	97,339	1,528,222	1,138,030
USAF TX RB3047	LACKLAND AFB	525,257	517,962	517,962	510,667	8,017,469	5,970,415
		2,990,792	2,949,253	2,949,253	2,907,714	45,651,111	33,995,275
USAF UT RP2027	HILL AFB	408,523	408,523	408,523	400,958	6,142,978	4,545,658
USAF VA RP4800	LANGLEY AFB	1,397,719	1,420,632	1,397,719	1,374,805	21,217,826	15,751,997
USAF WY RP4613	F E WARREN AFB	198,176	195,262	196,176	192,347	3,074,645	2,290,985
TOTAL (AIR FORCE)		33,305,111	33,424,908	33,174,080	32,545,833	508,518,165	378,179,309
USMC GA K67004	MCLB ALBANY MFH	502,086	510,317	502,086	493,855	7,621,831	5,658,405
USMC MO K67443	MCFC KANSAS CITY MFH TOTAL	159,275	159,275	155,027	152,904	2,414,604	1,795,566
USMC NC K67001	MCB CAMP LEJEUNE MFH	6,247,573	6,349,992	6,247,573	6,145,154	94,840,203	70,408,843
USMC NC K00146	MCAS CHERRY POINT MFH	3,642,517	3,702,230	3,642,517	3,582,803	55,294,596	41,050,403
		9,890,089	10,052,222	9,890,089	9,727,957	150,134,800	111,459,246
USMC SC K00263	MCRD PARRIS ISLAND MFH	247,615	251,674	247,615	243,555	3,758,873	2,790,567
USMC SC K60169	MCAS BEAUFORT MFH	1,192,630	1,212,181	1,192,630	1,173,078	18,104,510	13,440,688
		1,440,244	1,463,855	1,440,244	1,416,634	21,863,383	16,231,255
USMC VA K00264	MCB QUANTICO MFH	1,166,642	1,185,767	1,166,642	1,147,516	17,710,004	13,147,809
TOTAL (MARINE CORPS)		13,158,336	13,371,436	13,154,089	12,938,866	199,744,622	148,292,280
TOTAL (ALL SERVICES)		56,510,400	56,907,168	56,302,196	55,405,852	861,157,403	640,176,672

## **APPENDIX B**

### **CURRENT STATUS OF STATE RESTRUCTURING INITIATIVES**

## ALABAMA

STATUS:	REGULATORY:	The Alabama PSC does not see any benefit to the state in retail wheeling. No restructuring activity is anticipated.		
	LEGISLATIVE:	The Alabama Electricity Customer Severance Law was enacted on May 6, 1996. Law effectively <u>limits</u> most competition within state by allowing <u>full</u> recovery of stranded costs from departing customers. Law has been revised to expire five years after introduction of retail wheeling in Alabama or a neighboring state.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:		On January 27, 1997, several parties filed suit in U.S. District Court claiming that this legislation violates the Commerce Clause of Constitution and is preempted by federal law.		
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost per MWh
AIR FORCE:				
Maxwell AFB		82,655	\$ 3,829,876	\$46.336
Gunter AFB		43,909	\$ 1,933,979	\$44.045
ARMY:				
Fort Rucker		131,966	\$ 5,301,946	\$40.177
Anniston Army Depot		68,258	\$ 2,851,644	\$41.777
Redstone Arsenal		407,407	\$21,443,769	\$52.635
NAVY:				
NSPASURSTA Wetumpka		999	\$ 53,264	\$53.317
TOTAL		735,194	\$35,414,478	\$48.170

## ARIZONA

<b>STATUS:</b>	<b>REGULATORY:</b>	The order implementing the transition to retail electric competition was issued on December 26, 1996.
	<b>LEGISLATIVE:</b>	HB 2504, enacted on April 23, 1996, established a Joint Study Committee on restructuring which will report to the Legislature by December 31, 1997.
<b>COMPETITION MILESTONES:</b>		January 1, 1999 - 20% of all customers January 1, 2001 - 50% of all customers January 1, 2003 - 100% of all customers
<b>NOTES/COMMENTS:</b>		Utilities must file proposals for tariff rates/customer selection for initial phase-in period by December 31, 1997. Stranded costs must be mitigated; some recovery of "unmitigated" stranded costs will be permitted from customer revenues only. Exactly how and how much has yet to be determined.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost per MWh
<b>AIR FORCE:</b>			
Davis-Monthan AFB	85,788	\$ 6,246,871	\$72.818
Luke AFB	75,248	\$ 4,858,799	\$64.570
<b>ARMY:</b>			
Fort Huachuca	107,710	\$ 7,425,621	\$68.941
Yuma Proving Ground	39,946	\$ 896,403	\$22.440
<b>MARINE CORPS:</b>			
MCAS Yuma	51,044	\$ 3,763,550	\$73.731
<b>NAVY:</b>			
NSPASURSTA Maricopa	1,152	\$ 89,168	\$77.403
<b>OTHER (DeCA):</b>			
Fort Huachuca	964	\$ 88,554	\$91.861
Davis-Monthan AFB	995	\$ 77,197	\$77.585
MCAS Yuma	512	\$ 35,714	\$69.754
Luke AFB	2,375	\$ 156,267	\$65.797
Yuma Proving Ground	240	\$ 7,809	\$32.538
<b>TOTAL</b>	<b>365,974</b>	<b>\$23,645,953</b>	<b>\$64.611</b>

## ARKANSAS

STATUS:	REGULATORY:	No activity.		
	LEGISLATIVE:	No activity. Earlier legislative efforts to introduce retail wheeling in 1995 were quickly aborted		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:		Individual customers have expressed interest in retail wheeling, however the surplus energy in the state and the potentially large stranded costs have prohibited the Public Service Commission from seriously considering any changes.		
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost per MWh
AIR FORCE: Little Rock AFB		88,688	\$4,839,657	\$54.569
ARMY: Pine Bluff Arsenal		24,287	\$1,442,995	\$59.414
NAVY: NSPASURSTA Lewisville		224	\$ 14,406	\$64.313
OTHER (DeCA): Little Rock AFB		868	\$ 51,737	\$59.605
TOTAL		114,067	\$6,348,795	\$55.658

## CALIFORNIA

<b>STATUS:</b>	<b>REGULATORY:</b>	On May 6, 1997, the Commission unanimously voted to grant immediate access to all customers beginning January 1, 1998.
	<b>LEGISLATIVE:</b>	Assembly Bill 1890 was signed into law in September 1996. The bill provides full recovery of utility stranded costs through a CTC by March 31, 2002 and a 10% rate reduction for residential and small commercial customers to be funded by state-issued rate reduction bonds.

<b>COMPETITION MILESTONES:</b>	January 1, 1998 - 100% eligible. Supplier selection can begin in November 1997.
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<b>NOTES/COMMENTS:</b>	<p>The May 1997 CPUC ruling eliminates the four-year phase-in period outlined in their original plan during which time the information systems for the ISO and power exchange would have been tested.</p> <p>A recent decision by an administrative law judge adopted an hourly calculation of the CTC that is backed by the utilities. Opponents argue that consumers who shift load to periods where generation is less expensive end up paying a higher transition charge than those who use power at peak hours where energy costs are higher. CPUC President Greg Conlon has suggested an alternate method whereby the CTC and energy prices are averaged over some time period.</p> <p>The CPUC also will allow competitive suppliers for metering and billing services to begin competing for commercial business beginning January 1, 1998. All other customer classes will be able to competitively access these services starting January 1, 1999.</p>
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### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b>			
Anderson Peak	39	\$ 5,199	\$133.308
Santa Ynez Peak	60	\$ 6,596	\$109.933
Pillar Point AFS	884	\$ 88,697	\$100.336
Los Angeles AFS	31,984	\$ 2,892,314	\$ 90.430
Point Arena AFS	2,191	\$ 198,108	\$ 90.419
Onizuka AFB	22,941	\$ 1,657,861	\$ 72.266
Edwards AFB	114,620	\$ 8,057,367	\$ 70.296
Travis AFB	29,757	\$ 1,923,418	\$ 64.637
Vandenberg AFB	196,904	\$10,106,520	\$ 51.327
<b>ARMY:</b>			
Sierra Army Depot	12,914	\$ 1,476,389	\$114.325
Fort Irwin	100,266	\$ 8,955,336	\$ 89.316
Sharpe Army Depot	41,803	\$ 1,673,000	\$ 40.021

# CALIFORNIA

## POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>MARINE CORPS:</b>			
MCLB Barstow	36,197	\$ 3,154,612	\$ 87.151
MC Combat Center 29 Palms	91,120	\$ 7,528,838	\$ 82.626
Camp Pendleton	162,824	\$11,570,688	\$ 71.063
MCRD San Diego	16,937	\$ 1,201,316	\$ 70.929
<b>NAVY:</b>			
NRRC San Francisco	9,480	\$ 1,151,240	\$121.439
NWS Concord	5,161	\$ 588,730	\$114.073
NRRC San Diego	1,276	\$ 141,836	\$111.157
NFEC San Bruno	1,716	\$ 182,096	\$106.117
NARF Alameda	28,244	\$ 2,944,948	\$104.268
NARU Alameda	496	\$ 50,664	\$102.145
NAB Coronado	22,013	\$ 1,793,018	\$ 81.453
NSWSES Port Hueneme	8,402	\$ 672,980	\$ 80.098
NRMC Camp Pendleton	9,406	\$ 752,476	\$ 80.000
NSC San Diego	20,012	\$ 1,551,449	\$ 77.526
NMC San Diego	34,495	\$ 2,654,954	\$ 76.966
FAWTC San Diego	11,687	\$ 894,527	\$ 76.540
NSPASURSTA Chula Vista	198	\$ 14,981	\$ 75.662
NAF El Centro	5,583	\$ 408,671	\$ 73.199
NPGS Monterey	22,802	\$ 1,646,079	\$ 72.190
NAS Miramar	45,393	\$ 3,263,336	\$ 71.891
NAVSUBASE San Diego	50,011	\$ 3,457,214	\$ 69.129
NCBC Port Hueneme	38,409	\$ 2,650,867	\$ 69.017
FNOC Monterey	13,542	\$ 931,889	\$ 68.815
NSB San Diego	10,893	\$ 749,179	\$ 68.776
NOSC San Diego	62,212	\$ 4,219,380	\$ 67.823
FCTCPAC San Diego	9,381	\$ 631,393	\$ 67.306
ICSTF San Diego	3,635	\$ 240,168	\$ 66.071
PMTC Point Mugu	71,497	\$ 4,633,271	\$ 64.804
NCS San Diego	17,623	\$ 1,080,902	\$ 61.335
NWS Seal Beach Det Fallbrook	2,483	\$ 151,360	\$ 60.959
NWC China Lake	123,187	\$ 7,492,099	\$ 60.819
NIROP Sunnyvale	28,383	\$ 1,702,670	\$ 59.989
PWC San Diego	384,635	\$21,578,762	\$ 56.102
NAS North Island	54,661	\$ 3,052,213	\$ 55.839
NARF San Diego	63,901	\$ 3,524,273	\$ 55.152
NAS North Island San Diego	46,417	\$ 2,546,356	\$ 54.858
Shipbuilding C&R San Diego	1,181	\$ 64,126	\$ 54.298
FACNWC Corona	13,029	\$ 706,320	\$ 54.211
NRDC San Diego	5,111	\$ 274,526	\$ 53.713
FTC San Diego	8,279	\$ 443,952	\$ 53.624
SIMA San Diego	5,764	\$ 308,437	\$ 53.511
NS San Diego	263,321	\$13,887,957	\$ 52.742
NWS Seal Beach	20,552	\$ 997,765	\$ 48.548
NH Lemoore	2,797	\$ 109,014	\$ 38.975
NDCB Lemoore	461	\$ 17,873	\$ 38.770



# CALIFORNIA

## POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>NAVY (cont.):</b> MB Vallejo	300	\$ 10,392	\$ 34.640
<b>OTHER (DeCA):</b>			
Imperial Beach	660	\$ 86,270	\$130.712
Sierra Herlong	138	\$ 18,010	\$130.507
Point Mugu	161	\$ 20,865	\$129.596
San Diego	322	\$ 39,274	\$121.969
Barstow	230	\$ 27,689	\$120.387
North Island	295	\$ 33,854	\$114.759
Twenty Nine Palms	301	\$ 31,375	\$104.236
Fort Irwin	400	\$ 38,366	\$ 95.915
Hunter-Leggett	126	\$ 11,997	\$ 95.214
Hamilton Housing	229	\$ 21,746	\$ 94.961
Camp Pendleton	1,199	\$ 111,502	\$ 92.996
Miramar	930	\$ 85,361	\$ 91.786
San Diego NS	1,195	\$ 100,524	\$ 84.121
March AFB	1,079	\$ 89,895	\$ 83.313
San Onofre Camp Pendleton	210	\$ 17,008	\$ 80.990
Los Angeles AFS El Segundo	635	\$ 49,479	\$ 77.920
El Centro	127	\$ 9,714	\$ 76.488
China Lake	798	\$ 56,883	\$ 71.282
Vandenberg AFB	814	\$ 52,087	\$ 63.989
Edwards AFB	119	\$ 6,873	\$ 57.756
Travis AFB	745	\$ 37,808	\$ 50.749
Lemoore	113	\$ 5,669	\$ 50.168
Beale AFB	827	\$ 31,426	\$ 38.000
<b>TOTAL</b>	<b>2,108,228</b>	<b>\$140,333,231</b>	<b>\$66.565</b>

## COLORADO

STATUS:	REGULATORY:	The Colorado PUC opened an inquiry into electric industry restructuring in July 1996 and issued a report that was presented to the General Assembly in December 1996. The Commission does not consider itself to have any authority to undertake any further action regarding electric utility restructuring absent a legislative mandate.		
	LEGISLATIVE:	Out of six deregulation bills introduced in the Legislature in 1997, only one (SB 149) passed initial committee review. However, this bill was eventually killed. SB 149 called for the establishment of an advisory panel of 26 stakeholders to evaluate the retail choice process through public hearings and examination of other states' deregulation programs. This panel would not be required to present its findings until September 30, 1999.  In response to the perceived delay tactics of this bill, HB 1277 was introduced and is still in committee. This bill would require full retail competition by July 1, 2000 and filing of transition plans by the state's electric utilities in early 1998.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:				
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE:				
Peterson AFB		48,311	\$ 3,718,386	\$76.968
U.S. Air Force Academy		87,476	\$ 3,478,607	\$39.766
Falcon AFB		64,710	\$ 2,308,825	\$35.680
Cheyenne Mountain AS		35,421	\$ 1,199,929	\$33.876
ARMY:				
Fort Carson		102,645	\$ 4,426,741	\$43.127
Pueblo Army Depot		6,865	\$ 258,323	\$37.629
OTHER (DeCA):				
La Junta AFS		33	\$ 2,172	\$65.818
Fort Carson		782	\$ 36,597	\$46.799
USAF Academy		755	\$ 30,877	\$40.897
Peterson AFB		860	\$ 32,101	\$37.327
TOTAL		347,858	\$15,492,558	\$44.537

## CONNECTICUT

<b>STATUS:</b>	<b>REGULATORY:</b>	On July 14, 1995, the DPUC issued its final report to the Legislature on industry restructuring. The report said that full access will benefit customers under certain circumstances, but that wholesale restructuring must precede retail wheeling. No timetable for competition was proposed.
	<b>LEGISLATIVE:</b>	The Connecticut Legislature has dropped its efforts to pass a retail choice measure in 1997. Attempts to pass a bill which survived committee hearings in late March fell apart over the issue of securitization of stranded costs for nuclear facilities and the removal of a guaranteed 10% rate reduction.
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		Legislators are expected to revive the bill in early 1998 to avoid falling too far behind other New England states which have already passed restructuring legislation.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>NAVY:</b>			
NWIRP Bloomfield	7,080	\$ 739,904	\$104.506
NUSC New London	22,220	\$ 1,914,418	\$ 86.157
NAVSUBMEDCTR New London	5,367	\$ 326,254	\$ 60.789
NAVSUBASE New London	135,343	\$ 8,219,249	\$ 60.729
SUBSCOL Groton	16,858	\$ 1,020,833	\$ 60.555
<b>OTHER (DeCA):</b>			
New London	634	\$ 50,326	\$ 79.379
<b>TOTAL</b>	<b>187,502</b>	<b>\$12,270,984</b>	<b>\$ 65.445</b>

## DELAWARE

<b>STATUS:</b>	<b>REGULATORY:</b>	Delaware PSC staff and case participants issued a report on December 31, 1996 outlining various positions on restructuring issues. The PSC staff recommended further analysis before proceeding with retail competition.
	<b>LEGISLATIVE:</b>	<p>A resolution was passed by the State House of Representatives on July 15, 1997 requiring the PSC to formulate a definitive restructuring report for the legislature by January 1998.</p> <p>A bill was passed in June 1995 allowing the deregulation of services provided by electric utilities when found to be in "the public interest." A legislative study group continues to meet.</p>
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		Delmarva Power & Light has presented a plan to the Delaware PSC under which retail wheeling would be phased in over 6 to 8 years, starting in 1997. Significant differences exist between DP&L and other interested parties regarding the length of the phase-in period and stranded cost issues.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b> Dover AFB	75,802	\$4,068,480	\$53.672
<b>OTHER (DeCA):</b> Dover AFB	567	\$ 35,901	\$63.317
<b>TOTAL</b>	<b>76,369</b>	<b>\$4,104,381</b>	<b>\$53.744</b>

## DISTRICT OF COLUMBIA

STATUS:	REGULATORY:	PSC docket No. 945 initiated investigation into the restructuring of the electric utility industry in 1995. There has been only limited activity on the docket, and no schedule for a draft or final ruling has been given.		
	LEGISLATIVE:	No activity.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:				
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use	Annual Electricity Cost	Cost Per MWh
AIR FORCE: Bolling AFB		95,292	\$ 5,773,136	\$ 60.584
ARMY: Walter Reed Army Medical Center		131,063	\$ 8,023,346	\$ 61.217
NAVY: Naval Observatory		5,097	\$ 380,377	\$ 74.628
NRRC Washington		2,605	\$ 193,407	\$ 74.245
ND Washington		85,214	\$ 5,435,944	\$ 63.792
NRL Washington		300,768	\$10,336,572	\$ 34.367
OTHER (DeCA): Walter Reed Army Medical Center		608	\$ 79,823	\$131.288
TOTAL		620,647	\$30,222,605	\$ 48.695

## FLORIDA

<b>STATUS:</b>	<b>REGULATORY:</b>	No activity.
	<b>LEGISLATIVE:</b>	A legislative committee killed an effort to get the Florida Public Service Commission to study retail wheeling in 1996. Additional efforts to introduce measures calling for limited direct access have been unsuccessful.
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		An effort to force retail wheeling through use of an antitrust claim was rejected by the U.S. Court of Appeals, 11th Circuit.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b>			
MacDill AFB	91,353	\$ 4,990,528	\$54.629
Patrick AFB	97,253	\$ 4,663,222	\$47.949
Cape Canaveral	172,672	\$ 8,097,132	\$46.893
Tyndall AFB	97,968	\$ 4,487,545	\$45.806
Hurlburt Field	66,477	\$ 3,043,920	\$45.789
Eglin AFB	272,060	\$12,199,624	\$44.842
<b>NAVY:</b>			
NCU Key West	607	\$ 59,434	\$97.914
NRMC Key West	1,224	\$ 119,755	\$97.839
NRTF Saddlebunch Keys	1,228	\$ 107,182	\$87.282
NAS Key West	61,724	\$ 5,208,173	\$84.378
NRRC Jacksonville	4,376	\$ 301,032	\$68.792
NSWC Fort Lauderdale	1,080	\$ 64,800	\$60.000
NCB Mayport	363	\$ 20,271	\$55.843
SIMA NAS Mayport	1,239	\$ 69,186	\$55.840
NTEC Orlando	6,497	\$ 345,352	\$53.156
NAS Whiting Field	30,965	\$ 1,578,880	\$50.989
NRMC Orlando	533	\$ 27,060	\$50.769
NAS Jacksonville	80,479	\$ 3,982,984	\$49.491
NAVDIVESALVTRACEN Panama City	3,591	\$ 176,742	\$49.218
NS Mayport	173,156	\$ 8,579,343	\$49.547
NARU Jacksonville	3,548	\$ 168,910	\$47.607
SUPSHIP Jacksonville	1,083	\$ 51,512	\$47.564
NCSC Panama City	25,964	\$ 1,234,162	\$47.534
NSC Jacksonville	3,099	\$ 147,271	\$47.522
FTC Mayport	1,846	\$ 87,706	\$47.511
NARDAC Jacksonville	12,127	\$ 576,014	\$47.498
NRMC Jacksonville	19,137	\$ 908,904	\$47.495
NARF Jacksonville	58,455	\$ 2,776,214	\$47.493
NETPDC Ellyson Field Pensacola	15,706	\$ 743,919	\$47.365
NAVCOMSTA Jacksonville	1,496	\$ 70,720	\$47.273
NSC Pensacola	517	\$ 24,182	\$46.774
NARF Pensacola	19,638	\$ 890,916	\$45.367

# FLORIDA

## POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>NAVY (cont.):</b>			
NAVAEROMEDRSCHLAB Pensacola	2,468	\$ 111,783	\$45.293
NAS Pensacola	109,562	\$ 4,947,185	\$45.154
NAMI NAS Pensacola	2,930	\$ 131,986	\$45.046
NRDC Pensacola	896	\$ 40,239	\$44.910
PWC Pensacola	25,365	\$ 1,168,271	\$46.058
NTTC Pensacola	30,529	\$ 1,356,475	\$44.432
NAVXIDIVINGV Panama City	3,121	\$ 137,360	\$44.012
NARMC Pensacola	15,769	\$ 692,059	\$43.887
NAVCOASTSYSCEN Panama City	219	\$ 7,865	\$35.913
<b>OTHER (DeCA):</b>			
Corozal APO	381	\$ 31,824	\$83.528
Howard APO	102	\$ 8,190	\$80.294
Roosevelt Roads APO	534	\$ 42,771	\$80.096
Buchanan APO	1,014	\$ 81,027	\$79.908
<b>TOTAL</b>	<b>1,520,351</b>	<b>\$74,559,630</b>	<b>\$49.041</b>

## GEORGIA

<b>STATUS:</b>	<b>REGULATORY:</b>	The Georgia Public Service Commission began a series of informal workshops on retail restructuring issues in April 1997. A commission staff report will be issued at the conclusion of the process.
	<b>LEGISLATIVE:</b>	No activity.
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		Existing state law gives new industrial customers with over 900kW of load a one-time choice among state suppliers of electricity.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b>			
Dobbins ARB	16,097	\$ 863,475	\$53.642
Moody AFB	41,788	\$ 1,881,027	\$45.014
Robins AFB	256,440	\$11,262,959	\$43.920
<b>ARMY:</b>			
Fort McPherson	57,119	\$ 2,885,639	\$50.520
Fort Gordon	128,177	\$ 6,460,423	\$50.402
Hunter Army Airfield	50,750	\$ 2,456,620	\$48.406
Fort Stewart	158,054	\$ 7,512,719	\$47.533
Fort Benning	225,399	\$10,528,667	\$46.711
<b>MARINE CORPS:</b>			
MCLB Albany	74,108	\$ 3,325,443	\$44.873
<b>NAVY:</b>			
NSPASURSTA Savannah	164	\$ 12,901	\$78.665
NSCS Athens	5,562	\$ 343,334	\$61.729
NSPASURSTA Hawkinsville	234	\$ 14,415	\$61.603
NAS Atlanta	9,256	\$ 512,090	\$55.325
NAVSUBASE Kings Bay	91,210	\$ 2,915,736	\$31.967
TRIREFAC Kings Bay	33,880	\$ 1,082,892	\$31.963
SWFATLANT Kingsbury	58,992	\$ 1,885,223	\$31.957
TRITRAFAC Kings Bay	24,310	\$ 776,588	\$31.945
<b>TOTAL</b>	<b>1,231,540</b>	<b>\$54,720,151</b>	<b>\$44.432</b>



## IDAHO

STATUS:	REGULATORY:	<p>In September 1996, the IPUC approved a retail wheeling pilot program voluntarily proposed by Washington Water Power. The two-year pilot, which began in September 1996, allows the utility's largest end-users to choose competing suppliers for up to 1/3 of their total 1995 load.</p> <p>A second two-year WWP pilot program targeted towards smaller residential and commercial customers was approved April 11, 1997 and began on July 1, 1997. Participants in the pilot were randomly selected by WWP.</p> <p>These plans were approved despite an August 16, 1996 IPUC order which rejected the introduction of retail competition into the state. The IPUC feared its already low rates would rise under the assumption that competition would level rates nationally.</p>		
	LEGISLATIVE:	<p>On February 28, 1997, a state law passed requiring a legislative committee to develop recommendations and propose legislation for retail competition by 1998 for consideration in the 1999 session. The bill was passed in response to recent state and federal activity which may impact the state's already low rates.</p>		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:		<p>On December 5, 1996, a steering committee formed by the governors of Idaho, Montana, Oregon, and Washington finalized an electricity restructuring plan. The plan focused primarily on the role of the Bonneville Power Administration in a competitive market and repayment of the Agency's large debt through a "subscription" system. The plan calls for some degree of customer choice by July 1, 1999.</p>		
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE: Mt. Home AFB		71,685	\$2,090,003	\$29.155
NAVY: NSRDC Bayview		4,049	\$ 184,277	\$45.512
TOTAL		75,734	\$2,274,280	\$30.030

## ILLINOIS

STATUS:	REGULATORY:	The ICC has approved two retail wheeling pilot programs. The Illinois Power program began on April 25, 1996 and will run through December 31, 1999. The CILCO program began May 1, 1996. The industrial-specific portion will run for two years, and the portion open to all customer classes will run for five years.		
	LEGISLATIVE:	Electric restructuring legislation is on hold until Fall 1997 after the Senate failed to vote on a proposed bill before the end of the spring legislative session on May 30, 1997. The House approved the bill, which called for a 15% rate reduction for all customers, full stranded cost recovery by utilities, and a four-year phase-in period beginning in October 1999.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:				
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use	Annual Electricity Cost	Cost Per MWh
AIR FORCE:				
O'Hare ARFF		11,837	\$ 888,064	\$75.024
Scott AFB		134,201	\$ 6,993,691	\$52.114
ARMY:				
C.M. Price Supply Center		8,368	\$ 501,847	\$59.972
Rock Island Arsenal		81,114	\$ 3,981,075	\$49.080
Savanna Army Depot		4,897	\$ 204,845	\$41.831
NAVY:				
NRRC Great Lakes		4,008	\$ 288,916	\$72.085
NTC Great Lakes		86,046	\$ 4,302,747	\$50.005
NRDC Great Lakes		1,487	\$ 67,452	\$45.361
NRMCM Great Lakes		15,579	\$ 706,502	\$45.350
PWC Great Lakes		26,054	\$ 872,315	\$33.481
OTHER (DeCA):				
Great Lakes		89	\$ 7,107	\$79.854
C.M. Price Granite City		956	\$ 64,961	\$67.951
Rock Island		291	\$ 15,434	\$53.038
Scott AFB		991	\$ 49,453	\$49.902
TOTAL		375,918	\$18,944,409	\$50.395

## INDIANA

<b>STATUS:</b>	<b>REGULATORY:</b>	The IURC rejected a proposed tariff by PSI Energy that would have allowed customers to purchase power directly from competitive suppliers for new load over 2 MW. The IURC argued that a rate case was not the proper forum for such a change in traditional regulation.
	<b>LEGISLATIVE:</b>	<p>A bill was introduced on January 16, 1997 which would initiate choice for all customers beginning October 1, 1999. All consumers choosing a new supplier would be subject to a market access charge calculated in relation to the state national average charge per kWh. Utilities would be required to lower their rates to the state average by July 2004. The bill assumes the creation of a Midwestern ISO.</p> <p>Controversy surrounding the bill's introduction has forced the bill's author to call for a study investigating the aggressive plan. The bill is not expected to be reintroduced until the 1998 session.</p>
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		A key Indiana utility, Indianapolis Power & Light, has publicly favored a plan calling on federal legislation to lead the restructuring effort. Citing the need for common rules on independent system operators and stranded investment, IPALCO does not believe direct access can be implemented on a state-by-state basis.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b> Grissom AFB/ARB	44,390	\$1,595,556	\$35.944
<b>ARMY:</b> Newport AAP	3,217	\$ 119,325	\$37.092
<b>NAVY:</b> NSWC Crane	81,676	\$2,983,490	\$36.528
<b>OTHER (DeCA):</b> Crane	56	\$ 2,333	\$41.661
<b>TOTAL</b>	<b>129,339</b>	<b>\$4,700,704</b>	<b>\$36.344</b>

## IOWA

STATUS:	REGULATORY:	On February 10, 1997, the IUB issued a staff report on electric industry restructuring which recommends a "wait-and-see" approach and the monitoring of developments in other states.		
	LEGISLATIVE:	Legislative hearings have been held to review bills in parallel with IUB actions. No proposals, however, are expected until the 1998 session.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:				
POTENTIALLY AFFECTED INSTALLATIONS				
	Annual Energy Use	Annual Electricity Cost	Cost Per MWh	
NONE				

## KANSAS

<b>STATUS:</b>	<b>REGULATORY:</b>	The KCC opened a general investigation into restructuring the state's electric industry on January 17, 1996. On April 10, 1996, the Governor signed HB 2600 which blocks the Commission from implementing retail wheeling before July 1999.
	<b>LEGISLATIVE:</b>	<p>The April 1996 bill also created a task force of legislators, regulators, and stakeholders to study retail competition issues. The preliminary report was to be issued January 15, 1997, and a final report is due January 11, 1998.</p> <p>In February 1997, a restructuring bill was introduced which would bring retail competition to the state by January 1, 1999. The proposal would break the state into blocks that would go out to bid for competitive suppliers. Under this plan, utilities would only be allowed to recover 50% of stranded costs.</p> <p>Other legislative activity is expected, but final passage of any bill is not expected until after the release of the task force report in 1998.</p>
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		Utilicorp has also issued a proposal which would bring competition to all customers by the end of 2000.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b> McConnell AFB	47,307	\$ 2,792,440	\$ 59.028
<b>ARMY:</b> Fort Riley Fort Leavenworth	150,150 91,709	\$ 6,699,902 \$ 4,061,438	\$ 44.621 \$ 44.286
<b>NAVY:</b> NARC Olathe	232	\$ 25,576	\$110.241
<b>OTHER (DeCA):</b> McConnell AFB Fort Leavenworth Fort Riley	550 937 836	\$ 37,106 \$ 50,504 \$ 37,440	\$ 67.465 \$ 53.900 \$ 44.785
<b>TOTAL</b>	<b>291,721</b>	<b>\$13,704,406</b>	<b>\$ 46.978</b>

## KENTUCKY

<b>STATUS:</b>	<b>REGULATORY:</b>	The PSC is sponsoring legislation that will allow for alternative ratemaking to facilitate competition. Some end-user groups have opposed the plan, arguing that it would retard competition rather than promote it.
	<b>LEGISLATIVE:</b>	See above.
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		Kentucky Utilities, one of the lowest cost suppliers in the nation, supports retail competition for all customers by January 1, 1999. However, they argue for federal legislation to ensure open access is evenly implemented across the country.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>ARMY:</b>			
Fort Campbell	252,775	\$12,082,205	\$47.798
Bluegrass Army Depot	8,070	\$ 279,634	\$34.651
Fort Knox	221,405	\$ 7,176,175	\$32.412
<b>OTHER (DeCA):</b>			
Fort Campbell	1,176	\$ 62,916	\$53.500
Fort Knox	1,172	\$ 52,954	\$45.183
<b>TOTAL</b>	<b>484,598</b>	<b>\$19,653,884</b>	<b>\$40.557</b>

## LOUISIANA

<b>STATUS:</b>	<b>REGULATORY:</b>	The PSC has been studying electric competition issues since 1992, but did not open a formal investigation into retail wheeling until June 22, 1995.
	<b>LEGISLATIVE:</b>	Two restructuring bills died in the Louisiana Legislature in 1997 that would have brought retail choice to consumers beginning January 1, 1999. The Legislature will not be able to debate the deregulation issue again until 1999, as the 1998 session has been set aside for fiscal policy only.
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		<p>Entergy has proposed a plan to the PSC similar to that employed by Alabama Power in Alabama. The plan, supposedly designed to protect residential and small commercial customers, would allow the utility to recover all of its stranded costs over a seven-year period through exit fees. This would provide a strong disincentive for larger customers to leave the utility.</p> <p>In January 1996, the New Orleans City Council reopened its investigation of retail wheeling for electricity service within the city. New Orleans is unique in that it has its own regulatory agency separate from the state PSC.</p>

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b> Barksdale AFB	84,471	\$ 3,265,311	\$38.656
<b>ARMY:</b> Fort Polk	193,064	\$10,396,343	\$53.849
<b>MARINE CORPS:</b> MAW 4 New Orleans Fourth MARDIV New Orleans	480 3,375	\$ 37,200 \$ 254,430	\$77.500 \$75.387
<b>NAVY:</b> NRRC New Orleans NSA New Orleans NAS New Orleans	3,445 44,741 28,314	\$ 210,351 \$ 2,653,315 \$ 1,671,271	\$61.060 \$59.304 \$59.026
<b>TOTAL</b>	<b>357,890</b>	<b>\$18,848,221</b>	<b>\$52.665</b>

## MAINE

<b>STATUS:</b>	<b>REGULATORY:</b>	On December 31, 1996, the PUC presented its final electric industry restructuring plan, which was used in large part as the basis for the legislation adopted in May 1997.
	<b>LEGISLATIVE:</b>	Under terms of legislation enacted on May 29, 1997, consumers will be allowed to choose alternate suppliers beginning March 2000. The law requires utilities to sell off all generation assets before the start of competition. Metering and billing services will be opened to competition two years from the start date. Utilities will be allowed to establish affiliates, but will be unable to serve more than 33% of the load in their transmission and service area. Stranded costs will be recovered (not through an exit fee), the exact amount of which will be determined by regulators.
<b>COMPETITION MILESTONES:</b>		March 1, 2000 - 100% of generation services March 1, 2002 - 100% of metering and billing services
<b>NOTES/COMMENTS:</b>		Utilities will be allowed a reasonable opportunity to recover stranded investments made before March 1995. An assessment of each utility's stranded costs will be made by 2000, and will be collected through 2006.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>NAVY:</b>			
NASTROGRPDET Alpha Prospect Har	877	\$ 81,561	\$93.000
NCU East Machias	4,148	\$ 381,008	\$91.853
NSGA Winter Harbor	11,898	\$ 992,800	\$83.443
NAS Brunswick	35,345	\$2,542,111	\$71.923
<b>OTHER (DeCA):</b>			
Cutler E. Machias	79	\$ 7,393	\$93.582
Winter Harbor	41	\$ 3,302	\$80.537
Bangor ANGB	249	\$ 19,949	\$80.116
Brunswick	423	\$ 33,156	\$78.383
<b>TOTAL</b>	<b>53,060</b>	<b>\$4,061,280</b>	<b>\$76.541</b>



## MARYLAND

<b>STATUS:</b>	<b>REGULATORY:</b>	<p>The Maryland PSC issued a staff report on May 30, 1997 which recommends the introduction of retail choice to the state by April 2001. The plan would require utilities to unbundle their rates by April 1, 1998. Pilot programs for 10% of each customer class would begin in April 1999, and would be expanded to 20% of each class a year later.</p> <p>Roundtable discussions regarding retail choice issues and their effects on utilities are anticipated.</p>
	<b>LEGISLATIVE:</b>	<p>The president of the Maryland Senate introduced a bill that would create a task force to study retail electricity competition. The bill requires a report by the end of 1997, so that restructuring legislation could be introduced in the 1998 session.</p>
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		<p>Delmarva Power &amp; Light has presented a plan to the Maryland PSC under which retail wheeling would be phased in over 6 to 8 years, starting in 1997.</p>

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost per MWh
<b>AIR FORCE:</b> Andrews AFB	141,910	\$ 7,504,159	\$52.880
<b>ARMY:</b> Aberdeen Army Proving Ground Fort Meade Fort Detrick	263,402 421,883 140,222	\$14,023,828 \$20,537,233 \$ 5,672,013	\$53.241 \$48.680 \$40.450
<b>NAVY:</b> EMCAC Annapolis NSRDC Bethesda NRTF Annapolis NSRDC Annapolis NOS Indian Head NSEOD Indian Head NRMCM Annapolis NEODTC Indian Head NCS Cheltenham NRC Solomons Island UNISURUOSHEASCN Bethesda USNA Annapolis AMSORRDRESINS Bethesda NMC Bethesda NH Patuxent River NATC Patuxent River NSF Thurmont	1,134 30,329 6,923 18,872 30,305 1,792 1,486 17,349 5,720 4,407 17,817 81,096 9,914 79,258 2,911 145,008 9,310	\$ 115,612 \$ 2,277,151 \$ 436,088 \$ 1,178,086 \$ 1,884,104 \$ 109,890 \$ 90,012 \$ 1,043,920 \$ 343,976 \$ 258,034 \$ 1,037,857 \$ 4,683,834 \$ 545,566 \$ 4,354,464 \$ 151,418 \$ 7,512,439 \$ 431,436	\$101.951 \$ 75.082 \$ 62.991 \$ 62.425 \$ 62.171 \$ 61.323 \$ 60.573 \$ 60.172 \$ 60.136 \$ 58.551 \$ 58.251 \$ 57.757 \$ 55.030 \$ 54.940 \$ 52.016 \$ 51.807 \$ 46.341

# MARYLAND

## POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost per MWh
<b>OTHER (DeCA):</b>			
Northeast Region Fort Meade	234	\$ 21,135	\$ 90.321
Bolling AFB	698	\$ 49,117	\$ 70.368
Andrews AFB	696	\$ 48,235	\$ 69.303
Aberdeen	744	\$ 49,073	\$ 65.958
Patuxent River	430	\$ 27,893	\$ 64.867
Annapolis	467	\$ 28,877	\$ 61.835
Fort Detrick	241	\$ 13,995	\$ 58.071
Fort Meade	520	\$ 26,525	\$ 51.010
<b>TOTAL</b>	<b>1,435,078</b>	<b>\$74,455,970</b>	<b>\$ 51.883</b>

## MASSACHUSETTS

<b>STATUS:</b>	<b>REGULATORY:</b>	On December 30, 1996, the DPU issued its final plan for restructuring the electric industry. This served as the basis for legislation introduced in February 1997.
	<b>LEGISLATIVE:</b>	<p>On February 24, 1997, Massachusetts Governor William Weld introduced legislation to implement a retail competition plan recently approved by state regulators, the attorney general, and the state's utilities. It calls for creation of an ISO and a separate power exchange, and stranded cost recovery over a 10-year period through incentives for divestiture of generation and functional unbundling.</p> <p>The Joint Committee on Electric Utility Restructuring has developed a new bill which draws heavily on the legislation introduced by Governor Weld. Under the new plan, consumers would be guaranteed a 10% rate cut, even if they do not choose an alternate energy supplier; independent power producers must renegotiate existing contracts to bring prices in line with the market; and utilities must sell off non-nuclear generation assets in order to receive securitization of stranded costs.</p>

**COMPETITION MILESTONES:**

N/A

**NOTES/COMMENTS:**

In July 1996, Massachusetts Electric launched a one-year retail wheeling program for 13 of its industrial customers belonging to the Massachusetts High Technology Council, which acted as the group's aggregator and buying agent. The MHTC chose the sole supplier. A pilot for residential and small business customers in four Massachusetts towns was launched in January 1997, and offered a choice of six suppliers.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b>			
L.G. Hanscom AFB	77,004	\$ 6,890,071	\$89.477
Westover ARB	14,782	\$ 1,066,758	\$72.166
<b>ARMY:</b>			
Natick R&D Center	24,917	\$ 1,483,317	\$59.530
<b>NAVY:</b>			
NWIRP Bedford	6,372	\$ 523,060	\$82.087
NIROP Pittsfield	34,651	\$ 1,905,772	\$54.999
<b>OTHER (DeCA):</b>			
L.G. Hanscom AFB	338	\$ 30,644	\$90.663
<b>TOTAL</b>	<b>158,064</b>	<b>\$11,899,622</b>	<b>\$75.284</b>

## MICHIGAN

STATUS:	REGULATORY:	In June 1997, the MPSC opened the state electric industry to competition beginning in late 1997. Direct access will be phased in gradually, with new allotments of 2.5% of the total load of the major utilities opening to competition each year through 2001.		
	LEGISLATIVE:	No activity.		
COMPETITION MILESTONES:		1997 - 2.5% of total load 1998 - 5.0% 1999 - 7.5% 2000 - 10.0% 2001 - 12.5% 2002 - all consumers in all classes		
NOTES/COMMENTS:		<p>The allotments will be placed up for bid to all consumer classes. Consumers wishing to select an alternate energy supplier must submit bids detailing the amount the consumer is willing to pay as an exit fee. The commission will select the highest bidders until the 2.5% allocation is filled for that year. These charges will be used to offset utility stranded costs.</p> <p>In anticipation of the June 1997 ruling, Detroit Edison and Consumers Energy have been seeking to lock their largest customers into long-term contracts to slow the advent of competition.</p>		
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
ARMY:				
Selfridge Supply Center		27,356	\$1,771,794	\$64.768
Detroit Arsenal		39,109	\$2,390,404	\$61.122
TOTAL		66,465	\$4,162,198	\$62.622

## MINNESOTA

STATUS:	REGULATORY:	The PUC has established working groups to investigate the introduction of retail competition in the state. In December 1995, they issued a set of 15 draft principles of restructuring.	
	LEGISLATIVE:	Two electricity competition bills are before the state Legislature. Both call for the Department of Public Service to review direct access issues. One calls for full retail access by January 1, 2002. The Governor and other lawmakers have postponed any action on the issue until 1998.	
COMPETITION MILESTONES:		N/A	
NOTES/COMMENTS:		On October 28, 1996, the Minnesota Chamber of Commerce conducted a state-wide forum on electricity deregulation in an attempt to prod lawmakers into speeding the pace of restructuring.	
POTENTIALLY AFFECTED INSTALLATIONS			
	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE: Minneapolis-St. Paul IAP	4,754	\$ 246,408	\$51.832
NAVY: NASTROGRPDET Bravo Rosemount	599	\$ 53,916	\$90.010
NRRC Minneapolis	4,252	\$ 271,226	\$63.788
NIROP Minneapolis	31,304	\$1,415,362	\$45.213
TOTAL	40,909	\$1,986,912	\$48.569

## MISSISSIPPI

STATUS:	REGULATORY:	On July 1, 1997, the Mississippi Public Service Commission ordered its staff to come up with a plan by November 1, 1997 that would allow implementation of retail electric competition. Once the PSC staff comes back with its plan, the commission will review it and hold public hearings, probably in Spring, 1998. No timetable has been set for deregulation.		
	LEGISLATIVE:	A bill filed in the state senate in January 1997 which would have allowed customer choice for all classes before July 1, 2000 died in committee hearings.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:		State law limits the PSC's jurisdiction to stockholder-owned public utility companies, basically Entergy and Mississippi Power on the Gulf Coast. Combined, these two companies only provide electricity to about half of the state.		
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE:				
Columbus AFB		40,504	\$ 2,149,727	\$53.074
Keesler AFB		158,741	\$ 6,690,850	\$42.149
ARMY:				
Mississippi AAP		9,443	\$ 440,134	\$46.610
NAVY:				
NSPASURSTA Hillandale		182	\$ 13,111	\$72.038
Shipbuilding C&R Pascagoula		3,373	\$ 203,987	\$60.476
NAS Meridian		38,154	\$ 2,076,967	\$54.436
NCBC Gulfport		27,370	\$ 1,222,503	\$44.666
TOTAL		277,767	\$12,797,279	\$46.072

## MISSOURI

STATUS:	REGULATORY:	In March 1997, the Public Service Commission opened a formal docket to investigate retail competition for the purpose of developing restructuring legislation. They are forming a task force to lead the inquiry.  The PSC has approved a two-year program offered by Utilicorp allowing commercial customers with at least 20 delivery points and a combined load of at least 2.5 MW to have access to competitive electricity suppliers.	
	LEGISLATIVE:	No activity.	
COMPETITION MILESTONES:		N/A	
NOTES/COMMENTS:		As part of a merger settlement between Union Electric and Central Illinois Public Service, a 100 MW retail wheeling pilot may be available in mid-to-late 1997. However, the PSC is not convinced that it has the authority to implement a pilot, even if all parties agree, without legislation to modify existing state laws.	
POTENTIALLY AFFECTED INSTALLATIONS			
	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE: Whiteman AFB	77,022	\$ 3,635,452	\$47.200
ARMY: Fort Leonard Wood	71,954	\$ 4,425,181	\$61.500
Lake City AAP	43,014	\$ 2,334,226	\$54.267
Aviation/TOP Command	1,786	\$ 94,815	\$53.088
MARINE CORPS: MCF Kansas City	13,997	\$ 163,522	\$11.683
OTHER (DeCA): Fort Leonard Wood	200	\$ 12,295	\$61.475
Whiteman AFB	829	\$ 40,083	\$48.351
TOTAL	208,802	\$10,705,574	\$51.271

## MONTANA

STATUS:	REGULATORY:	The PSC opened a formal docket on retail competition, leading to the passage of legislation in 1997.		
	LEGISLATIVE:	Montana has passed a law calling for a phased-in approach to retail access. Large industrial customers will gain access starting July 1,1998, and full direct access for all customer classes will be phased in over a four-year period ending July 1, 2002. Pilot programs designed by each utility would be required during the transition period. A two-year rate freeze will occur at the beginning of the phase-in period, followed by an additional energy component rate freeze for residential and commercial customers. Stranded costs will be recovered through a transition charge based on filings made by the utilities one year before applicable customers gain access under the phase-in plan.		
COMPETITION MILESTONES:		Industrial customers - July 1, 1998 Full direct access - July 1, 2002		
NOTES/COMMENTS:		On December 5, 1996, a steering committee formed by the governors of Idaho, Montana, Oregon, and Washington finalized an electricity restructuring plan. The plan focused primarily on the role of the Bonneville Power Administration in a competitive market and repayment of the Agency's large debt through a "subscription" system. The plan calls for some degree of customer choice by July 1, 1999.		
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE: Malmstrom AFB		85,312	\$3,788,743	\$44.410
TOTAL		85,312	\$3,788,743	\$44.410



## NEBRASKA

STATUS:	REGULATORY:	No activity.		
	LEGISLATIVE:	On August 7, 1996, the state Legislature announced a three-year study into retail competition, that will review issues within the state and around the country and develop public policy recommendations.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:		All state utilities are publicly-owned. While there has been some discussion about privatization, Nebraska's low rates have precluded any action in this regard.		
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
NONE				

## NEVADA

STATUS:	REGULATORY:	The PSC issued a report favoring retail wheeling in December 1996, although it opposes mandating a particular industry structure. The Commission favors introducing competition gradually through unbundling. The PSC focused on developing legislation for the 1997 session, and did in fact propose a bill which was introduced in late April 1997.		
	LEGISLATIVE:	The Nevada state legislature passed a deregulation bill on July 6, 1997 which requires full competition in the state by December 31, 1997 and a cap on rates until this date. Other details of implementation, including stranded cost recovery, are to be determined by the PSC, with only broad framework given in the bill.  Nevada previously enacted the country's first retail wheeling statute, but it applies only to new load as an incentive for industrial investment in the state. Additional restrictions exist that limit the wide applicability of the law. In addition, the PSC must approve every contract under the statute.		
COMPETITION MILESTONES:		December 31, 1997 - 100%		
NOTES/COMMENTS:				
POTENTIALLY AFFECTED INSTALLATIONS				
	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh	
AIR FORCE: Nellis AFB	115,908	\$6,030,484	\$ 52.028	
ARMY: Hawthorne AAP	10,558	\$ 524,579	\$ 49.685	
NAVY: NAS Fallon	30,840	\$1,867,344	\$ 60.549	
OTHER (DeCA): Fallon Nellis AFB	146	\$ 15,211	\$104.185	
	882	\$ 42,002	\$ 47.621	
TOTAL		158,334	\$8,479,620	\$ 53.555

## NEW HAMPSHIRE

<b>STATUS:</b>	<b>REGULATORY:</b>	The PSC issued its final restructuring plan on February 28, 1997. The plan allows only 60% stranded cost recovery, and requires full divestiture of generation assets if utilities wish to become a distribution service provider.
	<b>LEGISLATIVE:</b>	On May 22, 1996, New Hampshire became the first state to enact legislation mandating the implementation of full retail competition for all customer classes by a set date -- mid-1998. The legislation left the issue of stranded cost recovery unresolved.

**COMPETITION MILESTONES:** January 1, 1998 - 100%

**NOTES/COMMENTS:**

A judge in Rhode Island has issued an indefinite restraining order preventing the PUC from moving forward with any portion of its restructuring plan that deals with stranded cost recovery for Public Service Company of New Hampshire. PSNH's parent company, Northeast Utilities, claims that the PUC's method of calculation to determine stranded cost recovery -- based on a regional market price of power rather than the cost of generation -- will force the utility into bankruptcy. Negotiations have been reopened over the stranded cost recovery issue, and it continues to be fought in Federal Court.

New Hampshire is currently in the middle of a two-year pilot program, which is scheduled to end in July, 1998. The program requires each utility to allow 3% of its load, allocated among all customer classes, to be served by competitive suppliers. The fight for the few large commercial and industrial loads proved so fierce that many received price quotes well below the market cost of power.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b> New Boston	5,294	\$ 506,143	\$95.607
<b>ARMY:</b> Cold Regions Lab	8,934	\$ 620,664	\$69.472
<b>NAVY:</b> Naval Shipyard Portsmouth	59,330	\$3,851,492	\$64.916
<b>TOTAL</b>	<b>73,558</b>	<b>\$4,978,299</b>	<b>\$67.679</b>

## NEW JERSEY

<b>STATUS:</b>	<b>REGULATORY:</b>	The BPU has completed its final plan to begin retail choice throughout the state. The plan requires a 5-10% rate reduction for all customer classes starting in October 1998 when 10% of customers will be able to choose an alternate energy supplier. Retail choice will be available to all customers by June 2000, by which time customers should see rate decreases of up to 15% as utility assets are paid off and proposed state energy tax cuts are made. Stranded costs are to be evaluated on an utility-by-utility basis, and will be awarded provided the utilities have made every effort to mitigate stranded investments.
	<b>LEGISLATIVE:</b>	<p>On July 15, 1997, Governor Christine Whitman signed a bill into law which eliminates the gross receipts and franchise tax placed on utilities, replacing it with a straight sales tax against all electricity suppliers. The intent was to simplify tax collection in a competitive environment and provide a tax break to consumers.</p> <p>In January 1997, the New Jersey Legislature proposed its plans for restructuring the electric industry. The "Energy Master Plan" combines the use of bilateral contracts and the establishment of a power pool coordinated by an ISO. This plan calls for 5% of utility load to be made available for competition by October 1998, with full direct retail access by April 2001.</p>
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		<p>Under the EMP, state utilities would be able to recover stranded costs, estimated at \$7 - \$17 billion, over an eight-year period through a market transition charge. Utilities could also elect to recover costs through securitization.</p> <p>Rejecting the fairness of a phased-in transition, Public Service Electric &amp; Gas has offered a plan which would allow all of its customers access to competition beginning January 1, 1999. Customers would submit their choice of energy supplier beginning in October 1998; capacity would be opened for competitive bidding once trading began on the PJM interconnection. The plan also includes a seven-year rate cap and a 5-10% rate cut for consumers, to be financed by securitizing \$2.5 billion of its estimated \$5.5 billion in stranded costs.</p> <p>GPU Energy has filed a proposal with the BPU to allow the town of Monroe (pop. 11,000) to conduct a retail wheeling pilot. The GPU plan would allow all customers in the town to choose their supplier by mid-1997. The pilot is in response to a municipalization threat by the town.</p>

# NEW JERSEY

## POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b>			
Gibbsboro AFS	50	\$ 5,738	\$114.760
McGuire AFB	83,745	\$7,180,900	\$ 85.747
<b>ARMY:</b>			
Fort Dix	87,995	\$7,436,173	\$ 84.507
Bayonne Military Ocean Terminal	24,675	\$2,041,778	\$ 82.747
Picatinny Arsenal	51,393	\$4,099,100	\$ 79.760
Fort Monmouth	97,036	\$7,323,895	\$ 75.476
<b>NAVY:</b>			
NWS Colts Neck	31,086	\$2,904,451	\$ 93.433
NATTC Lakehurst	650	\$ 57,658	\$ 88.705
NAEC Lakehurst	36,205	\$3,213,043	\$ 88.746
<b>OTHER (DeCA):</b>			
Lakehurst	183	\$ 21,362	\$116.732
McGuire AFB	1,370	\$ 126,407	\$ 92.268
Fort Monmouth	624	\$ 52,506	\$ 84.144
<b>TOTAL</b>	<b>415,012</b>	<b>\$34,463,011</b>	<b>\$ 83.041</b>

## NEW MEXICO

STATUS:	REGULATORY:	The stakeholder group established by the PUC to create an electric restructuring plan has been ordered back into negotiations after disbanding earlier this year citing disagreements on stranded costs. Public Service of New Mexico has proclaimed that it will not settle for less than 100% recovery of an estimated \$1 billion in stranded costs. The group now has until September 15 to present its plan to the PSC staff.		
	LEGISLATIVE:	The legislative committee responsible for electric restructuring issues recommended that retail competition proposals not be considered in the 1997 session, and a bill which was introduced to bring full direct access by January 1, 2000 was tabled indefinitely. A series of retail wheeling bills introduced in 1995 were killed early by utility opposition.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:		<p>In March 1997, Texas-New Mexico Power had a retail competition plan approved by the PUC which would implement retail wheeling over the next three years. Beginning in April 1997, the utility instituted a rate freeze until 2000, during which time it will recover its stranded costs. In 2000, all customers will have access to competitive generation. A limited pilot program covering only 1% of the utility's customers is expected at some point during the three year transition period.</p> <p>The PUC approved a negotiated agreement for large industrial customers of the Plains Electric Generation and Transmission Cooperative that will allow 1% of existing load and all new load to purchase electricity on the open market.</p> <p>The U.S. Army and Air Force have notified El Paso Electric that they intend to seek competitive bids for retail service to bases in New Mexico. El Paso is attempting to fight this through the PSC, but the Army claims that the PSC lacks jurisdiction.</p>		
POTENTIALLY AFFECTED INSTALLATIONS				
	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh	
AIR FORCE:				
Kirtland AFB	102,367	\$6,537,005	\$ 63.859	
Holloman AFB	75,876	\$4,801,192	\$ 63.277	
Cannon AFB	67,203	\$2,727,125	\$ 40.580	
ARMY:				
White Sands	115,342	\$7,037,013	\$ 61.010	

# NEW MEXICO

## POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>NAVY:</b>			
NSPASURSTA Truth or Consequences	182	\$ 18,421	\$101.214
NAVORDMISTESTSTA White Sands	3,597	\$ 302,066	\$ 83.977
<b>OTHER (DeCA):</b>			
White Sands	373	\$ 31,728	\$85.062
Holloman AFB	479	\$ 33,327	\$69.576
Kirtland AFB	1,011	\$ 64,954	\$64.247
Cannon AFB	539	\$ 21,995	\$40.807
<b>TOTAL</b>	<b>366,969</b>	<b>\$21,574,826</b>	<b>\$58.792</b>

## NEW YORK

<b>STATUS:</b>	<b>REGULATORY:</b>	On May 16, 1996, the PSC issued its plan to introduce retail competition to all customer classes in the state by 1998. The PSC's plan called for establishment of an ISO and recovery of stranded costs and social programs costs through a wires charge, but otherwise left the details of implementing retail wheeling to individual utility plans. The state's IOUs lost a subsequent lawsuit challenging the PSC's authority to mandate retail competition. The PSC has since negotiated a series of restructuring agreements with Consolidated Edison, Rochester Gas & Electric, Orange & Rockland Utilities, Central Hudson Gas & Electric, and New York State Electric & Gas.
	<b>LEGISLATIVE:</b>	A joint legislative conference committee has been established to forge consensus on electric deregulation. The committee began meetings in June 1997 and hopes to draft a bill in the coming months.

### COMPETITION MILESTONES:

N/A

### NOTES/COMMENTS:

On January 29, 1997, NYPA approved agreements which will eliminate the New York Power Pool and create a non-profit ISO. In addition, the agreements established the New York State Reliability Council to set standards in accordance with all applicable regulations. NYPA's plan has been submitted to the FERC, and the agency hopes to complete the implementation process by mid-1998.

New York became the third state to implement a retail wheeling pilot program when O&R introduced a two-phase pilot program known as "PowerPick." The industrial phase began on July 1, 1996, and the residential phase began on January 1, 1997. A retail competition pilot for agricultural customers of CHG&E, NYSE&G, Niagara Mohawk, and RG&E is scheduled to begin November 1, 1997 and run for two years or until full retail competition begins in each participating utility's service territory.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b> Niagara Falls	5,137	\$ 488,894	\$95.171
<b>ARMY:</b> Fort Drum	114,109	\$9,417,847	\$82.534
Watervliet Arsenal	44,140	\$3,504,816	\$79.402
U.S. Military Academy	85,636	\$5,271,259	\$61.554
Fort Hamilton	24,598	\$1,433,115	\$58.261



# NEW YORK

## POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>OTHER (DeCA):</b>			
Mitchel Field	364	\$ 44,401	\$121.981
Governor's Island	92	\$ 10,481	\$113.924
ARDEC Picatinny	76	\$ 7,899	\$103.934
Scotia	174	\$ 17,654	\$101.460
Hamilton	451	\$ 44,762	\$ 99.251
Fort Drum	790	\$ 63,944	\$ 80.942
West Point	1,080	\$ 80,088	\$ 74.156
Carlisle	548	\$ 36,865	\$ 67.272
<b>TOTAL</b>	<b>277,195</b>	<b>\$20,422,025</b>	<b>\$ 73.674</b>

## NORTH CAROLINA

<b>STATUS:</b>	<b>REGULATORY:</b>	The Utilities Commission has declined to initiate a formal investigation into retail wheeling.
	<b>LEGISLATIVE:</b>	<p>The General Assembly approved a bill to establish a commission to study electric industry restructuring. The commission will be composed of utility representatives, consumer groups, and state legislators. They are scheduled to issue an interim report in January 1998 and a final report in January 1999.</p> <p>Another bill has been introduced to bring retail choice to the state starting in October 1998 for residential customers, January 1999 for commercial customers, and July 1999 for industrial customers. IOUs would be granted 50% stranded cost recovery over five years. Consumer groups have praised the bill, while the state's largest utilities advocate waiting until the study report is concluded before proceeding with competition.</p>
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		Recognizing its inevitability, Duke Power and North Carolina Power have taken a neutral stand on retail access; Carolina Power & Light continues to oppose even an investigation into the matter.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b>			
Pope AFB	43,933	\$ 2,819,908	\$64.187
Seymour Johnson AFB	100,144	\$ 5,288,583	\$52.810
<b>ARMY:</b>			
Sunny Point Military Ocean Terminal	3,110	\$ 220,873	\$71.020
Fort Bragg	454,348	\$24,649,512	\$54.252
<b>MARINE CORPS:</b>			
Camp Lejeune	341,417	\$18,282,998	\$53.550
MCAS Cherry Point	156,733	\$ 7,207,901	\$45.988
<b>NAVY:</b>			
NARF Cherry Point	85,868	\$ 5,801,922	\$67.568
NRMC Camp Lejeune	14,717	\$ 938,788	\$63.789
<b>OTHER (DeCA):</b>			
Pope AFB	72	\$ 5,211	\$72.375
Cherry Point	470	\$ 31,732	\$67.515
Fort Bragg	1,665	\$ 107,255	\$64.417
New River	246	\$ 15,544	\$63.187

## NORTH CAROLINA

### POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>OTHER (DeCA) (cont.):</b>			
Hadnot Point Camp Lejeune	1,017	\$ 64,252	\$63.178
Seymour Johnson AFB	493	\$ 30,060	\$60.974
<b>TOTAL</b>	<b>1,204,233</b>	<b>\$65,464,539</b>	<b>\$54.362</b>

## NORTH DAKOTA

STATUS:	REGULATORY:	In February 1996, the PSC opened a formal investigation into retail competition. The PSC issued a second order in September 1996, calling for continuance of its investigation.		
	LEGISLATIVE:	Each branch of the state legislature has introduced a bill mandating the study of retail competition in preparation for considering legislation in the 1999 session.		
COMPETITION MILESTONES:				
NOTES/COMMENTS:				
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE:				
Minot AFB		35,708	\$2,275,320	\$63.720
Grand Forks AFB		175,392	\$6,607,875	\$37.675
ARMY:				
S.R. Mickelson		257	\$ 16,371	\$63.700
OTHER (DeCA):				
Grand Forks AFB		617	\$ 26,195	\$42.455
Minot AFB		457	\$ 11,598	\$25.379
TOTAL		212,431	\$8,937,359	\$42.072

## OHIO

STATUS:	REGULATORY:	On December 24, 1996, the PUCO issued guidelines on a two-year conjunctive billing pilot program which will allow small load customers or end-users with multiple facilities to aggregate their load for greater purchasing power. This program does not include supplier choice.  PUCO has also initiated a two-year pilot program which will enable interruptible customers to purchase off-system supplies during capacity shortages. The native utility, however, must actually purchase the power and then resell it to the customer.	
	LEGISLATIVE:	On January 6, 1997, the Ohio General Assembly announced the formation of a joint legislative committee to study restructuring issues. The committee must issue its recommendation by October 1, 1997.  A "placeholder" bill was introduced in February 1997 to ensure that the restructuring issue is addressed in the next legislative session.	
COMPETITION MILESTONES:		N/A	
NOTES/COMMENTS:		Centerior Energy has submitted its own competition plan calling for full direct access by 2002, provided that it gets full stranded cost recovery and tax relief. They call for ten-year stranded cost recovery through a surcharge on all customer bills.	
POTENTIALLY AFFECTED INSTALLATIONS			
	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE:			
Youngstown MAP	4,896	\$ 363,919	\$74.330
Wright-Patterson AFB	414,204	\$17,244,835	\$41.634
Newark AFB	46,138	\$ 1,743,292	\$37.784
ARMY:			
Columbus DCSC	61,885	\$ 3,760,000	\$60.758
NAVY:			
NWIRP Toledo	10,260	\$ 839,478	\$81.820
OTHER (DeCA):			
Wright-Patterson AFB	1,365	\$ 67,028	\$49.105
TOTAL	538,748	\$24,018,552	\$44.582

## OKLAHOMA

<b>STATUS:</b>	<b>REGULATORY:</b>	The OCC has launched an inquiry into electric restructuring. in June 1996. The key issue for the state is how to protect its already low rates in the face of competition.
	<b>LEGISLATIVE:</b>	A bill requiring the phase-in of direct access starting in July 2002 was passed in March 1997. Rates will be frozen until competition. Stranded costs will be recovered over seven years, and utilities are prohibited from using energy rate increases for cost recovery purposes. The bill also requires several studies, the results from which may lengthen the implementation period for competition if a method is not found to tax in-state and out-of-state providers on an equal basis.
<b>COMPETITION MILESTONES:</b>		Start of competition in July 2002
<b>NOTES/COMMENTS:</b>		Existing law allows new load of over 1 MW to be fed from a choice of suppliers.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b>			
Altus AFB	57,403	\$ 2,301,216	\$40.089
Tinker AFB	352,817	\$11,481,123	\$32.541
Vance AFB	20,351	\$ 541,687	\$26.617
<b>ARMY:</b>			
McAlester AAP	13,317	\$ 447,127	\$33.576
Fort Sill	165,763	\$ 4,593,569	\$27.712
<b>OTHER (DeCA):</b>			
Tinker AFB	709	\$ 34,101	\$48.097
Altus AFB	593	\$ 25,418	\$42.863
Fort Sill	1,270	\$ 31,252	\$24.608
Vance AFB	513	\$ 9,022	\$17.587
<b>TOTAL</b>	<b>612,736</b>	<b>\$19,464,515</b>	<b>\$31.767</b>

## OREGON

STATUS:	REGULATORY:	In June 1996, the PUC began its investigation into electric industry restructuring. The Commission hopes to develop consensus on key issues so that it can propose legislation for the 1999 session.  The Commission opened an investigation to develop a policy for the treatment of transition costs for electric utilities on February 7, 1997.	
	LEGISLATIVE:	Electricity restructuring bills failed to gain passage in the state Legislature in the 1997 session. Restructuring will not be revisited until the next legislative session in 1999.	
COMPETITION MILESTONES:		N/A	
NOTES/COMMENTS:		<p>Portland General Electric has filed a proposal with the PUC to offer customer choice to 50,000 of its customers (all classes included) in Hillsboro, Oregon City, Sandy, and St. Helens. If approved, participants would be able to choose their electric suppliers this fall and would begin receiving power from alternative providers December 1. The utility also plans to take up its Schedule 77 with the Commission again. Schedule 77 is a special industrial tariff that would give about 25 of PGE's largest customers the opportunity to purchase their electricity needs from other suppliers. The program would be open to customers having at least 5 MW of aggregated load.</p> <p>On December 5, 1996, a steering committee formed by the governors of Idaho, Montana, Oregon, and Washington finalized an electricity restructuring plan. The plan focused primarily on the role of the Bonneville Power Administration in a competitive market and repayment of the Agency's large debt through a "subscription" system. The plan calls for some degree of customer choice by July 1, 1999.</p>	
POTENTIALLY AFFECTED INSTALLATIONS			
	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
ARMY: Umatilla DA	2,324	\$98,897	\$42.555
TOTAL	2,324	\$98,897	\$42.555

## PENNSYLVANIA

<b>STATUS:</b>	<b>REGULATORY:</b>	The PUC has mandated that utilities put pilot programs in place by the end of 1997 which will run until the start of direct access in January 1999. The utilities have until September 30, 1997 to submit detailed restructuring plans to the PUC, including their stranded cost recovery requirements.
	<b>LEGISLATIVE:</b>	In December 1996, Pennsylvania became the fourth state to pass legislation necessary for retail competition. Retail competition will be phased in over a three-year period beginning on January 1, 1999, and customers will be eligible for direct access on a first come-first served basis. Rate caps have been put in place to ensure customers do not pay for more for power than they do now. Stranded cost decisions will be left to the PUC.

<b>COMPETITION MILESTONES:</b>	January 1, 1999 - 1/3 of total load January 1, 2000 - 2/3 of total load January 1, 2001 - full direct access
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<b>NOTES/COMMENTS:</b>	A settlement effort by the Pennsylvania Electric Association and the PUC over energy credits in the pilot programs is currently before the PUC for approval. The settlement proposes a 2.7¢/kWh credit for energy for utilities in the PJM interconnection and 2.1¢/kWh for utilities in western Pennsylvania. A participation credit has also been suggested that would give participants a 10% discount on the non-energy portion of their bill. Utilities have asked for language that would allow them recovery in their rate base if the pilots provide artificially low prices to consumers.
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### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b>			
Willow Grove ARS	7,073	\$ 580,008	\$82.003
Pittsburgh IAP	5,363	\$ 376,823	\$70.263
<b>ARMY:</b>			
Philadelphia DCS	22,795	\$ 1,700,000	\$74.578
Kelly Support Facility	4,463	\$ 318,812	\$71.434
Carlisle Barracks	21,435	\$ 1,440,437	\$67.200
New Cumberland Army Depot	47,040	\$ 2,848,942	\$60.564
Tobyhanna Army Depot	40,554	\$ 2,420,454	\$59.685
Scranton AAP	34,400	\$ 1,876,157	\$54.539
Letterkenny Army Depot	57,658	\$ 2,839,192	\$49.242
<b>NAVY:</b>			
NAS Willow Grove	24,705	\$ 1,759,182	\$71.208
SPCC Mechanicsburg	58,995	\$ 3,484,777	\$59.069
Defense Depot Mechanicsburg	21,593	\$ 1,272,238	\$58.919



# PENNSYLVANIA

## POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost per kWh
<b>OTHER (DeCA):</b>			
Charles E. Kelly Oakdale	273	\$ 23,653	\$86.641
DDRE New Cumberland	130	\$ 7,996	\$61.508
Tobyhanna	222	\$ 13,326	\$60.027
<b>TOTAL</b>	<b>346,699</b>	<b>\$20,961,997</b>	<b>\$60.462</b>

## RHODE ISLAND

STATUS:	REGULATORY:	In July 1995, the Rhode Island PUC issued its restructuring proposal developed by a task force composed of industry stakeholders		
	LEGISLATIVE:	<p>On August 9, 1996, legislation was signed requiring full retail competition for end-users and direct access for some customers beginning in July 1, 1997. Full direct access will be phased in by July 1, 1998. The bill grants a 2.8¢/kWh stranded investment rate to utilities over three years, after which 15% of generation assets must be sold. The value of assets (as determined by the sale) will be used to adjust the cost recovery rate in later years.</p> <p>An additional bill is under consideration which would provide exemptions for some of the smaller, non-competitive utilities, and give the PUC the flexibility to grant alternative stranded cost recovery methods if this would lower the cost to consumers.</p>		
COMPETITION MILESTONES:		July 1, 1997	-	10% of load
		January 1, 1998	-	20%
		July 1, 1998	-	100%
NOTES/COMMENTS:		The initial customers eligible for direct access will be selected on a first-come, first-served basis.		
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
NAVY:				
NRRC Newport		2,564	\$ 278,715	\$108.703
NETC Newport		40,752	\$3,778,089	\$ 92.709
NRMCM Newport		3,780	\$ 334,181	\$ 88.408
NWC Newport		7,601	\$ 670,869	\$ 88.261
NUSC Newport		52,794	\$4,436,280	\$ 84.030
OTHER (DeCA):				
Newport		431	\$ 48,152	\$111.722
TOTAL		107,922	\$9,546,286	\$ 88.455

## SOUTH CAROLINA

STATUS:	REGULATORY:	On May 15, 1997, the PSC voted to begin accepting proposals for deregulating the state's electric industry. Plans were received from the state's major public utilities and consumer groups in June 1997.		
	LEGISLATIVE:	The South Carolina Legislature was not able to reach a consensus on an electric restructuring bill before the end of its session on June 5, 1997. The bill would have brought retail competition to all customer classes in the state by 1999, beginning with residential customers on January 1, 1998.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:		Duke Power was the only state utility to offer a proactive plan for deregulation, albeit with no suggested dates for implementation. Carolina Power & Light and South Carolina Electric & Gas both proposed that the Legislature and the PSC observe the effects of competition in other states before proceeding further.		
POTENTIALLY AFFECTED INSTALLATIONS				
	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh	
AIR FORCE:				
Charleston AFB	31,439	\$ 2,803,260	\$89.165	
Shaw AFB	90,593	\$ 4,993,586	\$55.121	
ARMY:				
Fort Jackson	118,522	\$ 4,326,467	\$36.503	
MARINE CORPS:				
MCAS Beaufort	59,174	\$ 2,842,717	\$48.040	
MCRD Parris Island	56,913	\$ 2,284,132	\$40.134	
NAVY:				
NRRC Charleston	2,833	\$ 168,260	\$59.393	
NRMC Charleston	14,784	\$ 748,296	\$50.615	
NAVCONBRIG Charleston	4,882	\$ 228,953	\$46.897	
NH Beaufort	10,423	\$ 471,423	\$45.229	
NWS Charleston	86,525	\$ 3,789,411	\$43.796	
PMFLANT Charleston	15,094	\$ 645,398	\$42.759	
TOTAL		534,836	\$23,301,903	\$43.568

## SOUTH DAKOTA

STATUS:	REGULATORY:	The PUC is on the record as favoring retail wheeling provided true competition exists. No formal activity.		
	LEGISLATIVE:	Existing law allows new customers with loads greater than 2 MW to petition the PUC to select their electric supplier.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:				
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE: Ellsworth AFB		73,130	\$2,191,822	\$29.972
OTHER (DeCA): Ellsworth AFB		611	\$ 16,270	\$26.628
TOTAL		73,741	\$2,208,092	\$29.944

## TENNESSEE

STATUS:	REGULATORY:	No activity.	
	LEGISLATIVE:	No activity.	
COMPETITION MILESTONES:		N/A	
NOTES/COMMENTS:  -		<p>Tennessee customers receive a majority of their power from the Tennessee Valley Authority as opposed to investor-owned utilities.</p> <p>American Electric Power Company issued a position statement October 26, 1995, stating its support for retail competition and direct access in the region its serves. AEP favors direct access for all customer classes, stranded cost recovery through an access fee (decided on a utility-by-utility basis), and formation of a regional PX and ISO.</p>	
POTENTIALLY AFFECTED INSTALLATIONS			
	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE: Arnold AFB	602,674	\$18,495,616	\$30.689
ARMY: Volunteer AAP	4,596	\$ 228,331	\$49.680
NAVY: NRRC Memphis	3,215	\$ 260,023	\$80.878
Raytheon Co Bristol	31,340	\$ 1,446,038	\$46.140
NRMC Memphis	9,758	\$ 446,540	\$45.761
NARU Millington	695	\$ 31,732	\$45.658
TOTAL	652,278	\$20,908,280	\$32.054

## TEXAS

<b>STATUS:</b>	<b>REGULATORY:</b>	In November 1995, the PUC opened an investigation into retail competition issues, and has accepted comments on unbundling and stranded costs for developing its recommendation for the state legislature. A report issued by PUC staff claimed that industry restructuring could cost ratepayers as much as \$22 billion unless retail competition is phased in over an eight-year period due to stranded cost recovery.
	<b>LEGISLATIVE:</b>	<p>Efforts by Governor George Bush to push through electric restructuring legislation failed in the 1997 session due to resistance to the proposed 100% stranded cost recovery and the delayed 2002 start date. The deregulation issue will not be addressed again until the next legislative session in 1999.</p> <p>In previous sessions, the Texas legislature substantially deregulated the wholesale electricity market, and became the first state to approve an ISO. In addition to implementing non-discriminatory retail access, the ISO will also implement a transmission information system.</p>

<b>COMPETITION MILESTONES:</b>	N/A
<b>NOTES/COMMENTS:</b>	<p>The PUC and Texas stakeholders claim that FERC has no jurisdiction in Texas, because it is almost entirely electrically isolated from the rest of the country.</p> <p>Texas-New Mexico Power Company ("TNP") is planning to submit a retail wheeling transition plan to the PUC by the end of July 1997.</p>

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b>			
Eldorado AFS	3,513	\$ 234,130	\$66.647
Laughlin AFB	37,710	\$ 2,017,563	\$53.502
Sheppard AFB	113,381	\$ 5,685,919	\$50.149
Lackland AFB	130,824	\$ 5,878,201	\$44.932
Wilford Hall	10,468	\$ 465,584	\$44.477
Goodfellow AFB	44,106	\$ 1,738,404	\$39.414
Dyess AFB	70,912	\$ 2,709,516	\$38.210
Brooks AFB	62,008	\$ 2,280,972	\$36.785
Randolph AFB	82,869	\$ 2,846,495	\$34.349
<b>ARMY:</b>			
Fort Bliss	158,731	\$11,159,882	\$70.307
Corpus Christi Army Depot	54,212	\$ 2,942,847	\$54.284
Fort Sam Houston	114,921	\$ 6,027,651	\$52.450
Fort Hood	493,897	\$20,433,505	\$41.372
Lone Star AAP	11,513	\$ 440,709	\$38.279
Red River Army Depot	57,154	\$ 2,094,147	\$36.640

# TEXAS

## POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>NAVY:</b>			
NRRC Dallas	4,367	\$ 311,891	\$71.420
NAS Kingsville	24,875	\$ 1,411,755	\$56.754
NRMC Corpus Christi	10,887	\$ 511,473	\$46.980
NAS Corpus Christi	50,973	\$ 2,343,417	\$45.974
NSPASURSTA Archer City	17,024	\$ 721,426	\$42.377
NWIRP Dallas	189,192	\$ 7,884,036	\$41.672
NIRP McGregor	34,012	\$ 1,369,408	\$40.262
<b>OTHER (DeCA):</b>			
Fort Hood II	1,218	\$ 82,058	\$67.371
Kingsville	182	\$ 11,674	\$64.143
Sheppard AFB	927	\$ 57,441	\$61.964
Fort Hood	750	\$ 46,059	\$61.412
Laughlin AFB	407	\$ 21,587	\$53.039
Goodfellow AFB	528	\$ 25,077	\$47.494
Lackland AFB	1,631	\$ 76,074	\$46.643
Dyess AFB	645	\$ 29,998	\$46.509
Corpus Christi	678	\$ 31,105	\$45.878
Fort Bliss	671	\$ 29,516	\$43.988
Brooks AFB	582	\$ 23,212	\$39.883
Randolph AFB	1,054	\$ 40,116	\$38.061
Fort Sam Houston	1,390	\$ 51,687	\$37.185
<b>TOTAL</b>	<b>1,788,212</b>	<b>\$82,034,535</b>	<b>\$45.875</b>

## UTAH

STATUS:	REGULATORY:	In January 1996, the PSC formally opened an investigation into retail competition. Technical sessions have been held and comments received, but no formal report has yet been issued.		
	LEGISLATIVE:	Legislation has been introduced requiring the PSC to create a task force to study electric industry restructuring and develop an implementation plan. A final report and recommendations for implementing legislation are due in November 1997.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:				
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use	Annual Electricity Cost	Cost Per MWh
AIR FORCE: Hill AFB		217,957	\$ 7,925,914	\$36.365
ARMY: Dugway Army Proving Ground Tooele Army Depot		31,166 55,582	\$ 1,230,545 \$ 2,120,292	\$39.484 \$38.147
NAVY: NSSPO Magna		10,311	\$ 331,747	\$32.174
OTHER (DeCA): Dugway Hill AFB		284 455	\$ 11,784 \$ 17,921	\$41.493 \$39.387
TOTAL		315,755	\$11,638,203	\$36.858



## VERMONT

STATUS:	REGULATORY:	The Vermont Public Service Board issued its final restructuring report in December 1996 which called for full access for all end-users by the end of 1998. A final decision regarding stranded cost recovery will not be made before December 2001.		
	LEGISLATIVE:	The Vermont House of Representatives rejected passage of an electric restructuring bill that had already passed the Senate in the 1997 session. The House plans to introduce its own restructuring bill in the next session.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:		The PSB is forcing utilities to renegotiate long-term high-cost power purchase contracts with Hydro-Québec, which are estimated to account for up to 60% of all stranded costs.		
POTENTIALLY AFFECTED INSTALLATIONS				
	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh	
NONE				

## VIRGINIA

<b>STATUS:</b>	<b>REGULATORY:</b>	In August 1996, the SCC issued a report which expressed concern that the state's relatively low electric rates would be jeopardized by competition. While not ruling out competition, the Commission would prefer to monitor developments in other states first, as well as investigate interim measures such as flexible rate-making and real-time pricing.
	<b>LEGISLATIVE:</b>	A joint legislative committee has endorsed a resolution that will require the SCC to develop a plan for the implementation of full retail competition by November 1997. Legislation is expected to be introduced in the 1998 session.
<b>COMPETITION MILESTONES:</b>		N/A
<b>NOTES/COMMENTS:</b>		The Department of Defense has been pressuring state legislators into allowing it to retail wheel its load in the state. The Pentagon claims that it is a wholesale customer under state law, and that therefore it should have access to competitive suppliers. The state disagrees; however, the Legislature has passed a law allowing full stranded cost recovery in the event that a federal facility ceases to take service from a state utility.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b> Langley AFB	118,988	\$ 5,317,271	\$44.687
<b>ARMY:</b> Fort Monroe Fort A.P. Hill Richmond DCSC Fort Belvoir Fort Eustis Fort Lee Fort Myer	14,188 11,791 47,236 205,169 117,402 95,150 50,997	\$ 1,272,601 \$ 762,518 \$ 2,404,000 \$ 8,769,273 \$ 4,280,153 \$ 3,406,771 \$ 1,663,050	\$89.696 \$64.669 \$50.893 \$42.742 \$36.457 \$35.804 \$32.611
<b>MARINE CORPS:</b> MCB Quantico HQB N Arlington MCB Camp Elmore	104,908 8,438 3,734	\$ 5,469,080 \$ 371,044 \$ 153,562	\$52.132 \$43.973 \$41.125
<b>NAVY:</b> Naval Shipyard Portsmouth NISM Portsmouth NSRDC Portsmouth GMSOL Virginia Beach St. Juliens Creek Annex Portsmouth SATCOMDET Northwest Chesapeake NSC Norfolk Naval Medical Clinic Norfolk NWS Yorktown	52,069 447 215 36,000 16,910 3,067 54,459 1,852 42,481	\$ 2,944,800 \$ 25,164 \$ 11,911 \$ 1,800,000 \$ 832,399 \$ 149,178 \$ 2,582,177 \$ 86,911 \$ 1,985,247	\$56.556 \$56.295 \$55.400 \$50.000 \$49.225 \$48.640 \$47.415 \$46.928 \$46.733

# VIRGINIA

## POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>NAVY (cont.):</b>			
NRTF Driver	144	\$ 6,660	\$46.250
NCB Norfolk	1,485	\$ 66,585	\$44.838
Naval Hospital Portsmouth	35,117	\$ 1,562,775	\$44.502
AEGISTRACEN Dahlgren	14,211	\$ 630,908	\$44.396
NAS Oceana	75,446	\$ 3,340,590	\$44.278
FCTC Virginia Beach	46,301	\$ 2,044,691	\$44.161
NSWC Dahlgren	81,602	\$ 3,597,268	\$44.083
TACTGRULANT Dam Neck	1,401	\$ 61,586	\$43.959
COMBTDIRSYS Virginia Beach	8,339	\$ 361,026	\$43.294
NPB Little Creek	60,243	\$ 2,595,287	\$43.080
NAB Little Creek	75,623	\$ 3,251,449	\$42.996
PWC Norfolk	506,699	\$21,252,352	\$41.943
LANTFLT Norfolk	4,793	\$ 200,874	\$41.910
NEOC Norfolk	944	\$ 39,380	\$41.716
NARF Norfolk	35,021	\$ 1,455,230	\$41.553
NAVCOMM Norfolk	1,128	\$ 46,753	\$41.448
Naval Comm System Norfolk	3,885	\$ 160,944	\$41.427
OSFLANT Norfolk	18,791	\$ 776,058	\$41.299
NSGA Northwest Chesapeake	22,023	\$ 908,814	\$41.267
SACLANT	3,465	\$ 142,624	\$41.161
NCAMSLANT Norfolk	6,714	\$ 275,971	\$41.104
HQSALANT Norfolk	20,486	\$ 841,752	\$41.089
Naval Dental Clinic Norfolk	2,651	\$ 108,926	\$41.089
NARDA Norfolk	2,878	\$ 118,231	\$41.081
Naval Station Norfolk	66,426	\$ 2,728,298	\$41.073
FTC Norfolk	18,835	\$ 773,531	\$41.069
AIRPAC Norfolk	2,868	\$ 117,740	\$41.053
NAS Norfolk	47,078	\$ 1,923,780	\$40.864
AFSC Norfolk	5,707	\$ 232,855	\$40.802
FAADCLANT Norfolk	1,777	\$ 72,473	\$40.784
FAWTC Norfolk	444	\$ 18,070	\$40.698
MB Norfolk	1,447	\$ 58,742	\$40.596
<b>OTHER (DeCA):</b>			
Portsmouth	540	\$ 49,711	\$92.057
Fort Monroe	331	\$ 29,721	\$89.792
Oceana-NAVRESSO	1,014	\$ 76,717	\$75.658
Central Region Little Creek	207	\$ 15,360	\$74.203
Norfolk	877	\$ 57,989	\$66.122
Little Creek	1,260	\$ 83,231	\$66.056
Dahlgren	66	\$ 3,894	\$59.000
Fort Belvoir	699	\$ 40,958	\$58.595
Fort Eustis	903	\$ 52,117	\$57.715
Quantico	886	\$ 51,081	\$57.653
DGSC Richmond	344	\$ 19,217	\$55.863
Langley AFB	1,126	\$ 60,744	\$53.947
Fort Myer	1,320	\$ 67,158	\$50.877

# VIRGINIA

## POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>OTHER (DeCA) (cont.)</b>			
DeCA Headquarters Fort Lee	810	\$ 38,361	\$47.359
Fort Lee	935	\$ 44,198	\$47.271
<b>TOTAL</b>	<b>2,170,791</b>	<b>\$94,749,790</b>	<b>\$43.648</b>

## WASHINGTON

<b>STATUS:</b>	<b>REGULATORY:</b>	The WUTC approved two Washington Water Power pilot programs in July 1996. Direct Access and Delivery Service began September 1, 1996 and will run until August 31, 1998. The pilot is being offered to 15 of WWP's largest customers in the state who can contract for alternate capacity and energy for up to 1/3 of their 1995 load. More Options for Power Service began July 1, 1997 and is slated to run through June 30, 1999. The residential and commercial participants were randomly selected by the utility.
	<b>LEGISLATIVE:</b>	Heavy utility opposition killed an attempt to bring legislation to a vote which would have brought full retail competition to the state beginning in July 1999. A considerably weakened version of the bill (SB 6006) was passed that will require utilities to show separate charges for transmission, generation, and distribution on their billing statements beginning October 1, 1998.  Companion retail competition bills calling for a five-year phase-in of competition beginning in mid-1999 were introduced in both houses of the legislature in February. The bills would split stranded cost recovery 50/50 between shareholders and ratepayers.

**COMPETITION MILESTONES:**

N/A

**NOTES/COMMENTS:**

Clark Public Utility District, a municipal electric company, was to propose a retail wheeling program for its customers in early 1997. Puget Sound Power & Light has proposed a pilot that would allow customers with over 2.4 MW of load access to competitive suppliers, provided the WUTC approves its proposed merger with Washington Power. All other customers would be phased into the pilot over five years.

On December 5, 1996, a steering committee formed by the governors of Idaho, Montana, Oregon, and Washington finalized an electricity restructuring plan. The plan focused primarily on the role of the Bonneville Power Administration in a competitive market and repayment of the Agency's large debt through a "subscription" system. The plan calls for some degree of customer choice by July 1, 1999.

### POTENTIALLY AFFECTED INSTALLATIONS

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>AIR FORCE:</b>			
Fairchild AFB	65,892	\$ 2,120,808	\$32.186
McChord AFB	81,406	\$ 2,159,963	\$26.533
<b>ARMY:</b>			
Fort Lewis	236,235	\$ 7,710,716	\$32.640

# WASHINGTON

## POTENTIALLY AFFECTED INSTALLATIONS (cont.)

	Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
<b>NAVY:</b>			
NRRC Seattle	2,048	\$ 146,104	\$71.340
NRMC Bremerton	10,065	\$ 655,538	\$65.130
Naval Hospital Whidbey Island	3,819	\$ 189,463	\$49.611
NAS Whidbey Island	86,337	\$ 4,269,839	\$49.455
NARU Whidbey Island	1,566	\$ 70,464	\$44.996
NAVUNDWARENGSTA Keyport	47,575	\$ 1,927,344	\$40.512
NSB Bremerton	74,447	\$ 2,579,989	\$34.655
NAVSUBASE Bangor Bremerton	20,568	\$ 709,736	\$34.507
SWFPAC Bremerton	29,663	\$ 1,023,326	\$34.498
NSC Puget Sound	8,734	\$ 277,836	\$31.811
NTF Bremerton	20,732	\$ 648,198	\$31.266
Naval Shipyard Puget Sound	234,038	\$ 7,291,793	\$31.156
NISMF Bremerton	1,886	\$ 47,454	\$25.161
TRIREFFAC Bremerton	33,597	\$ 799,972	\$23.811
NRS Jim Creek OSO	8,891	\$ 207,798	\$23.372
<b>TOTAL</b>	<b>967,499</b>	<b>\$32,836,341</b>	<b>\$33.939</b>

## WEST VIRGINIA

STATUS:	REGULATORY:	The Public Service Commission has initiated a formal investigation into retail competition. Hearings began in April 1997.		
	LEGISLATIVE:	No activity.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:				
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
NAVY:				
Allegheny Ballistics Lab		21,756	\$ 928,680	\$42.686
NRS Sugar Grove		6,120	\$ 240,000	\$39.216
TOTAL		27,876	\$1,168,680	\$41.924

## WISCONSIN

STATUS:	REGULATORY:	In December 1995, the PSC approved a plan to introduce retail competition to the state by 2000, assuming the resolution of several key issues. The plan is comprised of a 32-step process which would phase in competition over five years.		
	-	The PSC has formed a task force to develop their own proposal for the development of an ISO, following the submission of an ISO structuring plan developed by a coalition of state industry stakeholders.		
	LEGISLATIVE:	A joint legislative committee has been established to review retail wheeling issues, including the December 1995 PSC proposal.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:		An Indian nation located near Madison has claimed the right to retail wheel the load for its new casino, arguing that it is a sovereign nation not subject to Wisconsin state law.		
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE: General Mitchell Field		4,983	\$ 210,664	\$42.277
ARMY: Fort McCoy		27,625	\$1,092,071	\$39.532
OTHER (DeCA): Fort McCoy		120	\$ 5,913	\$49.275
TOTAL		32,728	\$1,308,648	\$39.986



## WYOMING

STATUS:	REGULATORY:	The PSC has begun an investigation into retail competition issues, but it does not have the legal authority to mandate restructuring. Legislative changes will be necessary.  The Commission is currently working on the final version of a report on the economic impact of electric restructuring to be presented to an interim legislative committee studying these issues.		
	LEGISLATIVE:	An interim legislative committee has been formed to examine electric competition issues.		
COMPETITION MILESTONES:		N/A		
NOTES/COMMENTS:				
POTENTIALLY AFFECTED INSTALLATIONS				
		Annual Energy Use (MWh)	Annual Electricity Cost	Cost Per MWh
AIR FORCE: F.E. Warren AFB		57,537	\$3,076,226	\$53.465
OTHER (DeCA):		703	\$ 31,476	\$44.774
TOTAL		58,240	\$3,107,702	\$53.360

## FEDERAL LEGISLATION IN THE 105th CONGRESS

BILL	SHORT TITLE	SPONSOR	STATUS
HR 338	The Ratepayer Protection Act	Stearns	In Energy & Power Subcommittee
<p>This bill would prospectively repeal section 210 of PURPA covering purchases from cogeneration and small power production facilities effective January 7, 1997. The bill also provides full recovery of costs associated with such purchases prior to January 7, 1997.</p>			
HR 655	Electric Consumers' Power to Choose Act of 1997	Schaefer	In Energy & Power Subcommittee
<p>This bill requires full retail access for all customers by the end of 2000. If a state does not develop a retail wheeling plan within six months of passage of the bill, FERC will impose their own plan. A two-year extension is available to states who need to make state legislative changes to take further action. Both PUHCA and PURPA would be repealed. Renewable energy resources would be encouraged through a credit trading program.</p>			
HR 1171	Omnibus Corporate Welfare Reduction Act of 1997	Kasich	In several committees including Commerce
<p>This bill would repeal the Rural Electrification Act of 1936, and amend other legislation to eliminate programs and subsidies associated with the Rural Electrification Act. The bill also terminates all fossil energy research and development activities of the Department of Energy including the Clean Coal Technology Program.</p>			
HR 1230	The Consumer Electric Power Act of 1997	DeLay	In Energy & Power Subcommittee
<p>This bill mandates full retail access for all customers by January 1, 1999, and eliminates stranded cost recovery and exit fees. The bill would repeal PURPA and PUHCA once the market is competitive.</p>			
HR 1359	Amendment to Public Utility Regulatory Policies Act of 1978	DeFazio	In Energy & Power Subcommittee
<p>This bill would amend PURPA to provide for the establishment of a National Electric System Public Benefits Fund to be administered by a board of the same name. The fund would provide matching grants to states for the support of conservation, energy efficiency, renewable energy, and universal service programs. The program would be funded by charges (to be determined by the Board) collected by transmission utilities from generators. The charges, which cannot exceed 2 mills per kWh, are intended to provide half of the aggregate cost of carrying out the eligible programs.</p>			

## FEDERAL LEGISLATION IN THE 105th CONGRESS

BILL	SHORT TITLE	SPONSOR	STATUS
HR 1960	The Electric Power Competition and Consumer Choice Act of 1997	Markey	In Commerce Committee
<p>This bill grants exemption from PURPA and PUHCA for states that deregulate their electricity industry. No deadline is given for competition, and the bill does not provide a plan for the implementation of retail wheeling or stranded cost recovery. The bill includes a requirement that generators provide credits constituting up to 10% of total sales for the development of renewable energy technology.</p>			
S 237	The Electric Consumers Protection Act of 1997	Bumpers	In Energy & Natural Resources Committee
<p>This bill requires full competition by 2003, and provides for full stranded cost recovery. The bill gives FERC the authority to hear appeals from utilities who have been denied stranded cost recovery by state regulators. An additional provision allows the Tennessee Valley Authority to enter the retail market.</p>			
S 621	The Public Utility Holding Company Act of 1997	D'Amato	Left Banking Committee in June 1997; reported to Senate with amendments and placed on legislative calendar.
<p>This bill would repeal the Public Utility Holding Company Act of 1935 effective 18 months after passage, and enact another bill of the same name in 1997. The legislation is intended to eliminate unnecessary regulation that might prove restrictive in a competitive energy market, while retaining some measures for customer protection, including improved federal and state access to the books and records of all companies in a holding company system.</p>			
S 687	The Electric System Public Benefits Protection Act of 1997	Jeffords	In Energy & Natural Resources Committee
<p>The bill would establish the National Electric System Public Benefits Board which would administer a fund to provide matching grants to states for programs relating to renewable energy, universal electric service, and energy conservation and efficiency. The plan would be funded through a nonbypassable, competitively neutral wires charge paid by transmission operators. In addition, the bill would require a percentage of the total amount of electricity sold by covered generation facilities to come from renewable energy sources. The percentage would increase gradually from 2.5% in 2000 to 20% in 2020. The bill would also repeal the cogeneration and small power production provision of PURPA effective January 1, 2000 and enact nationwide emissions standards.</p>			

## FEDERAL LEGISLATION IN THE 105th CONGRESS

BILL	SHORT TITLE	SPONSOR	STATUS
S 722	The Electric Utility Restructuring Empowerment and Competitiveness Act of 1997	Thomas	In Energy & Natural Resources Committee

This bill supports the legal authority of states to create reliability standards, set stranded cost recovery rates, and maintain assistance to low income and rural consumers.

## **APPENDIX C**

### **ESTIMATED COST SAVINGS**

**APPENDIX C-1.1**

**ESTIMATED COST**

**SAVINGS -- MAIN BASE**

**17-STATE SUBGROUP**

**(SORTED BY SERVICE)**

<u>FY 1996</u>	<u>Total Cost Savings (\$)</u>
1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30
31	32
33	34
35	36
37	38
39	40
41	42
43	44
45	46
47	48
49	50
51	52
53	54
55	56
57	58
59	60
61	62
63	64
65	66
67	68
69	70
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73	74
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77	78
79	80
81	82
83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100

<u>FY 1996</u>	<u>Total Cost Savings (\$)</u>
1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
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71	72
73	74
75	76
77	78
79	80
81	82
83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100

FY 1996		Total Cost Savings (\$)											
	MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Army	AZ	NA	YUMA PG	16,178	707,822	43.75	0	0	0	0	0	0	0
Army	AZ	NA	FT HUACHUCA	107,710	7,425,621	68.94	0	0	0	0	0	0	0
	123,888	8,133,443	65.65	0	0	0	0	0	0	0	0	0	0
Army	CA	NA	SIERRA AD	12,914	1,476,389	114.32	43,002	65,325	105,958	86,932	125,138	15,661	16,633
Army	CA	NA	FT IRWIN	100,266	8,955,336	89.32	260,835	396,240	642,102	527,302	759,051	121,598	129,143
Army	CA	NA	SHARPE AD	20,366	1,167,186	57.31	33,996	51,644	83,688	68,726	98,930	24,699	26,231
	133,546	11,598,911	86.85	337,832	513,208	831,647	682,960	983,119	161,958	205,661	181,639	163,069	172,007
Army	IL	NA	C. M. PRICE SC	8,368	501,847	59.97	0	0	0	0	38,978	76,112	100,541
Army	IL	NA	ROCK ISLAND Ars	81,114	3,981,075	49.08	0	0	0	0	309,210	603,784	797,575
Army	IL	NA	SAVANNA AD	4,897	204,845	41.83	0	0	0	0	15,910	31,068	41,039
	94,379	4,687,767	49.67	0	0	0	0	0	0	364,098	710,964	937,119	939,155
Army	IN	NA	NEWPORT AAP	3,217	119,325	37.09	0	0	0	0	0	0	0
Army	MA	NA	NATICK R & D CENTER	24,917	1,483,317	59.53	0	0	0	0	0	0	0
Army	MD	NA	ABERDEEN ARMY PG	263,402	14,023,828	53.24	0	0	0	0	0	0	204,137
Army	MD	NA	FT DETRICK	140,222	5,672,013	40.45	0	0	0	0	0	0	108,672
Army	MD	NA	FT MEADE	421,883	20,537,233	48.68	0	0	0	0	0	0	42,368
	825,507	40,233,074	48.74	0	0	0	0	0	0	0	0	0	355,177
Army	MI	NA	DETROIT Ars	39,109	2,390,404	61.12	0	0	0	0	0	0	0
Army	MI	NA	SELFREDGE SC	27,356	1,771,794	64.77	0	0	0	0	0	0	0
	66,465	4,162,198	62.62	0	0	0	0	0	0	0	0	0	0
Army	NH	NA	COLD REGIONS LAB	8,934	620,664	69.47	0	1,387	743	339	-836	-590	1,117
Army	NJ	NA	FT MONMOUTH	97,036	7,323,895	75.48	0	177,376	895,488	480,811	0	0	0
Army	NJ	NA	FT DIX	87,995	7,436,173	84.51	0	180,095	909,217	488,182	0	0	0
Army	NJ	NA	PICATINNY Ars	51,393	4,099,100	79.76	0	99,275	501,195	269,104	0	0	0
Army	NJ	NA	BAYONNE MOT	24,675	2,041,778	82.75	0	49,449	249,647	134,042	0	0	0
	261,099	20,900,946	80.05	0	506,195	2,555,546	1,372,139	0	0	0	0	0	0
Army	NV	NA	HAWTHORNE AAP	10,558	524,579	49.69	0	0	0	0	0	0	13,599

DOD Electric Power Cost Savings  
Group of 17 - Main Base Only

		FY 1996											Total Cost Savings (\$)									
		MWth	\$	\$/MWth	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006								
Army	NY	NA	24,598	1,433,115	58.26	0	150,990	186,787	221,542	228,746	234,966	20,810	13,209	16,136	15,669							
Army	NY	NA	85,636	5,271,259	61.55	0	555,368	687,038	814,872	841,368	864,248	72,448	45,987	56,177	54,550							
Army	NY	NA	114,109	9,417,847	82.53	0	992,243	1,227,490	1,455,885	1,503,222	1,544,102	96,536	61,277	74,856	72,687							
Army	NY	NA	44,140	3,504,816	79.40	0	369,260	456,806	541,802	559,418	574,632	37,342	23,703	28,956	28,117							
			268,483	19,627,037	73.10	0	2,067,861	2,558,121	3,034,101	3,132,754	3,217,948	227,137	144,175	176,125	171,024							
Army	PA	NA	57,658	2,839,192	49.24	0	0	0	0	0	0	0	0	0	0							
Army	PA	NA	34,400	1,876,157	54.54	0	0	0	0	0	0	0	0	0	0							
Army	PA	NA	21,435	1,440,437	67.20	0	0	0	0	0	0	0	0	0	0							
Army	PA	NA	40,554	2,420,454	59.68	0	0	0	0	0	0	0	0	0	0							
Army	PA	NA	47,040	2,848,942	60.56	0	0	0	0	0	0	0	0	0	0							
Army	PA	NA	22,795	1,700,000	74.58	0	0	0	0	0	0	0	0	0	0							
Army	PA	NA	4,463	318,812	71.43	0	0	0	0	0	0	0	0	0	0							
			228,345	13,443,994	58.88	0	0	0	0	0	0	0	0	0	0							
Army	WA	NA	236,235	7,710,716	32.64	0	0	877,375	1,130,304	1,375,867	1,614,277	2,154,172	-309,232	-340,178	-348,683							
			2,285,573	133,245,971		337,832	3,088,650	6,823,432	6,219,843	5,490,904	4,993,693	2,950,478	738,127	943,931	1,480,363							
Navy	AZ	N66080	1,152	89,168	77.40	0	0	0	0	0	0	0	0	0	0							
Navy	CA	N65888	63,901	3,524,273	55.15	102,649	155,936	252,692	207,514	298,716	77,496	98,408	91,698	80,899	82,304							
Navy	CA	D60530	118,787	7,178,257	60.43	209,075	317,611	514,684	422,666	608,426	144,059	182,932	170,459	150,384	152,998							
Navy	CA	D63126	64,556	4,163,184	64.49	121,258	184,205	298,502	245,134	352,870	78,290	99,416	92,638	81,728	83,148							
Navy	CA	N65885	28,244	2,944,948	104.27	85,775	130,303	211,154	173,403	249,613	34,253	43,496	40,530	35,757	36,378							
Navy	CA	N61665	9,381	631,393	67.31	18,390	27,937	45,271	37,177	53,517	11,377	14,447	13,462	11,876	12,083							
Navy	CA	N91285	28,383	1,702,670	59.99	49,592	75,337	122,082	100,256	144,318	34,421	43,710	40,730	35,933	36,557							
Navy	CA	N70240	17,623	1,080,902	61.33	31,483	47,826	77,501	63,645	91,617	21,372	27,139	25,289	22,311	22,698							
Navy	CA	N00246	54,661	3,052,213	55.84	88,899	135,049	218,845	179,718	258,704	66,290	84,178	78,439	69,201	70,403							
Navy	CA	N66001	62,212	4,219,380	67.82	122,895	186,692	302,531	248,443	357,633	75,448	95,806	89,274	78,760	80,129							
Navy	CA	P63387	321,341	16,926,585	52.67	493,007	748,937	1,213,644	996,661	1,434,691	389,706	494,865	461,124	466,818	413,887							
Navy	CA	N68308	9,480	1,151,240	121.44	33,531	50,938	82,544	67,787	97,579	11,497	14,599	13,604	12,002	12,210							
Navy	CA	N66022	5,111	274,526	53.71	7,996	12,147	19,684	16,164	23,269	6,198	7,871	7,334	6,471	6,583							
Navy	CA	P00245	263,321	13,887,957	52.74	404,504	614,489	995,773	817,742	1,177,138	319,343	405,514	377,866	333,364	339,157							
Navy	CA	N67030	300	10,392	34.64	303	460	745	612	881	364	462	431	380	386							
Navy	CA	N63394	8,402	672,980	80.10	19,601	29,777	48,253	39,626	57,042	10,190	12,939	12,057	10,637	10,822							



FY 1996	Total Cost Savings (\$)										2006					
	MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003		2004	2005			
Navy	CA	N35723	NDCB LEMOORE TOTAL	461	17,873	38.77	521	791	1,282	1,052	1,515	559	710	662	584	594
Navy	CA	N68094	NRMC CAMP PENDELETON TOTAL	9,406	752,476	80.00	21,917	33,294	53,953	44,307	63,780	11,407	14,485	13,498	11,908	12,115
Navy	CA	N62474	NFEC SAN BRUNO TOTAL	1,716	182,096	106.12	5,304	8,057	13,056	10,722	15,434	2,081	2,643	2,462	2,172	2,210
Navy	CA	N63139	NARU ALAMEDA TOTAL	496	50,664	102.15	1,476	2,242	3,633	2,983	4,294	602	764	712	628	639
Navy	CA	P60036	NWS CONCORD MB+SHIP	2,348	298,928	127.31	8,707	13,226	21,433	17,601	25,337	2,848	3,616	3,369	2,973	3,024
Navy	CA	N61690	FTC SAN DIEGO TOTAL	8,279	443,952	53.62	12,931	19,643	31,832	26,141	37,629	10,040	12,750	11,880	10,481	10,663
Navy	CA	N62021	NAB CORONADO TOTAL	22,013	1,793,018	81.45	52,224	79,334	128,560	105,575	151,976	26,696	33,900	31,589	27,868	28,353
Navy	CA	N68350	NRRC SAN DIEGO TOTAL	1,276	141,836	111.16	4,131	6,276	10,170	8,351	12,022	1,547	1,965	1,831	1,615	1,643
Navy	CA	N65918	SIMA SAN DIEGO TOTAL	5,764	308,437	53.51	8,984	13,647	22,115	18,161	26,143	6,990	8,877	8,271	7,297	7,424
Navy	CA	N00259	NMC SAN DIEGO TOTAL	34,495	2,654,954	76.97	77,329	117,472	190,361	156,327	225,033	41,834	53,122	49,500	43,671	44,430
Navy	CA	N00948	FAWTC SAN DIEGO TOTAL	11,687	894,527	76.54	26,054	39,579	64,138	52,671	75,820	14,173	17,998	16,771	14,796	15,053
Navy	CA	P63406	NAVSUBASE SAN DIEGO TOTAL	50,011	3,457,214	69.13	100,696	152,969	247,884	203,566	293,032	60,651	77,017	71,768	63,314	64,414
Navy	CA	N63406	NSB SAN DIEGO TOTAL	10,893	749,179	68.78	21,821	33,148	53,716	44,113	63,500	13,210	16,775	15,631	13,791	14,030
Navy	CA	D60259	NAS MIRAMAR MB	44,246	3,173,589	71.73	92,435	140,419	227,548	186,865	268,992	53,659	68,139	63,493	56,015	56,989
Navy	CA	P62583	NCBC PORT HUENEME MB+SHIP	33,636	2,326,974	69.18	67,776	102,960	166,845	137,015	197,233	40,792	51,799	48,268	42,583	43,323
Navy	CA	D00396	NWS SEAL BEACH DET FALLBROOK MB	2,471	149,396	60.46	4,351	6,610	10,712	8,797	12,663	2,997	3,805	3,546	3,128	3,183
Navy	CA	N39353	ICSTF SAN DIEGO TOTAL	3,635	240,168	66.07	6,995	10,627	17,220	14,141	20,357	4,408	5,598	5,216	4,602	4,682
Navy	CA	D60701	NWS SEAL BEACH MB	20,496	990,609	48.33	28,853	43,831	71,027	58,328	83,964	24,857	31,564	29,412	25,948	26,399
Navy	CA	N63134	FNOC MONTEREY TOTAL	13,542	931,889	68.81	27,142	41,233	66,817	54,871	78,987	16,423	20,855	19,433	17,144	17,442
Navy	CA	N68095	NH LEMOORE TOTAL	2,797	109,014	38.98	3,175	4,823	7,816	6,419	9,240	3,392	4,307	4,014	3,541	3,603
Navy	CA	N66079	NSPASURSTA CHULA VISTA TOTAL	198	14,981	75.66	436	663	1,074	882	1,270	240	305	284	251	255
Navy	CA	N00244	NSC SAN DIEGO TOTAL	20,012	1,551,449	77.53	45,188	68,646	111,240	91,351	131,500	24,270	30,818	28,717	25,335	25,775
Navy	CA	N64267	FACNWC CORONA TOTAL	13,029	706,320	54.21	20,572</									

						Total Cost Savings (\$)												
						FY 1996												
						MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Navy	IL	N68330	NRRC GREAT LAKES TOTAL			4,008	288,916	72.08	0	0	0	0	0	0	22,440	43,818	57,756	57,882
Navy	IL	N00210	NTC GREAT LAKES TOTAL			86,046	4,302,747	50.01	0	0	0	0	0	0	334,194	652,570	860,151	862,019
Navy	IL	N68326	NRDC GREAT LAKES TOTAL			1,487	67,452	45.36	0	0	0	0	0	0	5,239	10,230	13,484	13,513
Navy	IL	N00211	NRMC GREAT LAKES TOTAL			15,579	706,502	45.35	0	0	0	0	0	0	54,874	107,151	141,235	141,542
						109,272	5,463,396	50.00	0	0	0	0	0	0	424,341	828,599	1,092,173	1,094,545
Navy	IN	D00164	NWSC CRANE MB			80,978	2,958,118	36.53	0	0	0	0	0	0	0	0	0	0
Navy	MA	N91041	NIROP PITTSFIELD TOTAL			34,651	1,905,772	55.00	0	0	0	0	0	0	0	0	0	0
Navy	MA	N93880	NWRP BEDFORD TOTAL			6,372	523,060	82.09	0	0	0	0	0	0	0	0	0	0
						41,023	2,428,832	59.21	0	0	0	0	0	0	0	0	0	0
Navy	MD	D00161	USNA ANNAPOLIS MB			74,936	4,311,778	57.54	0	0	0	0	0	0	0	0	0	56,075
Navy	MD	N0431A	AMSORRRDESINS BETHESDA TOTAL			9,914	545,566	55.03	0	0	0	0	0	0	0	0	0	7,683
Navy	MD	N66843	NRC SOLOMONS ISLAND TOTAL			4,407	258,034	58.55	0	0	0	0	0	0	0	0	0	3,415
Navy	MD	N68336	UNISURUOSHEASCN BETHESDA TOTAL			17,817	1,037,857	58.25	0	0	0	0	0	0	0	0	0	13,808
Navy	MD	N65098	NH PATUXENT RIVER TOTAL			2,911	151,418	52.02	0	0	0	0	0	0	0	0	0	2,256
Navy	MD	D00421	NATC PATUXENT RIVER MB			130,532	6,767,973	51.85	0	0	0	0	0	0	0	0	0	101,162
Navy	MD	N00168	NMC BETHESDA TOTAL			79,258	4,354,464	54.94	0	0	0	0	0	0	0	0	0	61,425
Navy	MD	D0417A	NSF THURMONT MB			8,761	395,849	45.18	0	0	0	0	0	0	0	0	0	6,790
Navy	MD	D61533	NSRDC ANNAPOLIS MB			18,485	1,156,329	62.55	0	0	0	0	0	0	0	0	0	14,326
Navy	MD	D00174	NOS INDIAN HEAD MB			27,434	1,690,400	61.62	0	0	0	0	0	0	0	0	0	21,261
Navy	MD	N00167	NSRDC BETHESDA TOTAL			30,329	2,277,151	75.08	0	0	0	0	0	0	0	0	0	23,505
Navy	MD	N35328	NRTF ANNAPOLIS TOTAL			6,923	436,088	62.99	0	0	0	0	0	0	0	0	0	5,365
Navy	MD	N63822	EMCAC ANNAPOLIS TOTAL			1,134	115,612	101.95	0	0	0	0	0	0	0	0	0	879
Navy	MD	N0464A	NEODTC INDIAN HEAD TOTAL			17,349	1,043,920	60.17	0	0	0	0	0	0	0	0	0	13,445
Navy	MD	N00788	NCS CHELTENHAM TOTAL			5,720	343,976	60.14	0	0	0	0	0	0	0	0	0	4,433
Navy	MD	N62640	NSEOD INDIAN HEAD TOTAL			1,792	109,890	61.32	0	0	0	0	0	0	0	0	0	1,389
Navy	MD	N00162	NRMC ANNAPOLIS TOTAL			1,486	90,012	60.57	0	0	0	0	0	0	0	0	0	1,152
						439,188												

DOD Electric Power Cost Savings  
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		Total Cost Savings (\$)																					
		FY 1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006	
		MWth	\$	\$/MWth																			
Navy	NH	D00102	NSY PORTSMOUTH MB	56,301	3,465,829	61.56	0	8,738	4,684	2,139	-5,270	-3,085	-3,716	3,660	11,317	7,038							
Navy	NJ	D68335	NAEC LAKEHURST MB	30,299	2,585,933	85.35	0	62,628	316,181	169,765	0	0	0	0	0	0	0	0	0	0	0	0	0
Navy	NJ	N63094	NATTC LAKEHURST TOTAL	650	57,658	88.70	0	1,396	7,050	3,785	0	0	0	0	0	0	0	0	0	0	0	0	0
Navy	NJ	B60478	NWS COLTS NECK MB+SHIP	25,971	2,395,774	92.25	0	58,023	292,930	157,282	0	0	0	0	0	0	0	0	0	0	0	0	0
				56,920	5,039,365	88.53	0	122,047	616,160	330,832	0	0	0	0	0	0	0	0	0	0	0	0	0
Navy	NV	D60495	NAS FALLON MB	28,504	1,629,548	57.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36,713	
Navy	PA	N31093	DEFENSE DEPOT MECHANICSBURG TOTAL	21,593	1,272,238	58.92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16,735	
Navy	PA	D00104	SPCC MECHANICSBURG MB	57,729	3,412,703	59.12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44,740	
Navy	PA	D00158	NAS WILLOW GROVE MB	20,658	1,457,752	70.57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16,010	
				99,980	6,142,693	61.44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77,485	
Navy	RI	N00124	NWC NEWPORT TOTAL	7,601	670,869	88.26	0	82,288	89,432	96,092	6,093	6,098	6,129	6,115	6,074	6,069							
Navy	RI	N66604	NUSC NEWPORT TOTAL	52,794	4,436,280	84.03	0	544,146	591,387	635,432	42,320	42,357	42,573	42,473	42,188	42,156							
Navy	RI	D62661	NETC NEWPORT MB	29,494	2,606,822	88.38	0	319,748	347,508	373,389	23,642	23,663	23,784	23,728	23,569	23,551							
Navy	RI	N68351	NRRC NEWPORT TOTAL	2,564	278,715	108.70	0	34,187	37,155	39,922	2,055	2,057	2,068	2,063	2,049	2,047							
Navy	RI	N68086	NRMC NEWPORT TOTAL	3,780	334,181	88.41	0	40,990	44,549	47,867	3,030	3,033	3,048	3,041	3,021	3,018							
				96,233	8,326,867	86.53	0	1,021,359	1,110,029	1,192,701	77,140	77,208	77,602	77,419	76,900	76,842							
Navy	WA	D68436	NSB BREMERTON MB	50,095	1,727,517	34.48	0	0	196,568	253,235	308,251	361,664	482,623	-65,574	-72,137	-73,940							
Navy	WA	N00621	NARU WHIDBEY ISLAND TOTAL	1,566	70,464	45.00	0	0	8,018	10,329	12,573	14,752	19,686	-2,050	-2,255	-2,311							
Navy	WA	N00253	NAVUNDAWANGSTA KEYPORT TOTAL	47,575	1,927,344	40.51	0	0	219,306	282,527	343,907	403,499	538,449	-62,276	-68,508	-70,221							
Navy	WA	N00406	NSC PUGET SOUND TOTAL	8,734	277,836	31.81	0	0	31,614	40,728	49,576	58,166	77,620	-11,433	-12,577	-12,891							
Navy	WA	P00251	NSY PUGET SOUND MB+SHIP	224,730	6,623,918	29.48	0	0	753,712	970,992	1,181,943	1,386,751	1,850,549	-294,172	-323,611	-331,701							
Navy	WA	N55639	NISMF BREMERTON TOTAL	1,886	47,454	25.16	0	0	5,400	6,956	8,467	9,935	13,257	-2,469	-2,716	-2,784							
Navy	WA	N68438	TRIREFAC BREMERTON TOTAL	33,597	799,972	23.81	0	0	91,026	117,267	142,744	167,478	223,491	-43,978	-48,380	-49,589							
Navy	WA	N70273	NRS JIM CREEK OSO TOTAL	8,891	207,798	23.37	0	0	23,645	30,461	37,079	43,504	58,053	-11,638	-12,803	-13,123							
Navy	WA	N68095	NRMC BREMERTON TOTAL	10,065	655,538	65.13	0	0	74,591	96,094	116,971	137,240	183,140	-13,175	-14,494	-14,856							
Navy	WA	P68436	NAVUSBASE BANGOR BREMERTON SHIP TOTAL	20,568	709,736	34.51	0	0	80,758	104,039	126,642	148,587	198,282	-26,924	-29,618	-30,358							
Navy	WA	N68437	NTF BREMERTON TOTAL	20,732	648,198	31.27	0	0	73,756	95,019	115,662	135,704	181,090	-27,138	-29,854	-30,600							
Navy	WA	N66097	NH WHIDBEY ISLAND TOTAL	3,819	189,463	49.61	0	0	21,558	27,773	33,807	39,665	52,931	-4,999	-5,499	-5,637							
Navy	WA	D00620	NAS WHIDBEY ISLAND MB	63,487	2,718,632	42.82	0	0	309,343	398,521	485,101	569,159	759,515	-83,104	-91,421	-93,707							
Navy	WA	P68328	NRRC SEATTLE TOTAL	2,048	146,104	71.34	0	0	16,625	21,417	26,070	30,588	40,818	-2,681	-2,949	-3,023							
Navy	WA	N63402	SWFPAC BREMERTON TOTAL	29,663	1,023,326	34.50	0	0	116,441	150,008	182,598	214,238	285,990	-38,829	-42,715	-43,783							
				527,456	17,773,300	33.70	0	0	2,022,360	2,605,366	3,171,391	3,720,930	4,965,395	-690,440	-759,537	-778,525							

DOD Electric Power Cost Savings  
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		Total Cost Savings (\$)												
		FY 1996												
		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
TOTAL (NAVY)		3,194,719	180,632,469		2,556,741	5,369,256	10,531,273	9,610,784	10,667,310	5,539,076	7,678,256	2,282,874	2,249,722	2,734,162
USAF AZ	FP4887 LUKE AFB	61,717	4,060,107	65.79	0	0	0	0	0	0	0	0	0	0
USAF AZ	FP4877 DAVIS MONTHAN AF	65,335	4,789,947	73.31	0	0	0	0	0	0	0	0	0	0
		127,052	8,850,054	69.66	0	0	0	0	0	0	0	0	0	0
USAF CA	EY7765 PILLAR POINT AFS	884	88,697	100.34	2,583	3,925	6,360	5,223	7,518	1,072	1,361	1,269	1,119	1,139
USAF CA	EY7396 LOS ANGELES AFS	28,720	2,633,469	91.70	76,703	116,521	188,821	155,062	223,212	34,830	44,228	41,213	36,359	36,991
USAF CA	EY1525 ANDERSON PEAK	39	5,189	132.42	151	230	373	306	441	48	60	56	50	51
USAF CA	EY9887 SANTA YNEZ PEAK	60	6,596	110.35	192	292	473	388	559	72	92	86	76	77
USAF CA	FY9749 POINT ARENA AFS	1,643	148,580	90.43	4,328	6,574	10,653	8,749	12,594	1,993	2,530	2,358	2,080	2,116
USAF CA	FP4427 TRAVIS AFB	15,723	1,135,166	72.20	33,063	50,227	81,392	66,840	96,216	19,068	24,213	22,562	19,905	20,251
USAF CA	FB4610 VANDENBERG AFB	187,847	9,616,238	51.19	280,085	425,482	689,489	566,217	815,069	227,811	289,284	269,560	237,814	241,947
USAF CA	FY7311 ONIZUKA AFB	22,941	1,657,861	72.27	48,287	73,354	118,869	97,617	140,520	27,822	35,330	32,921	29,044	29,548
USAF CA	FP2805 EDWARDS AFB	94,913	7,091,018	74.71	206,535	313,751	508,429	417,529	601,032	115,106	146,166	136,200	120,160	122,248
		352,769	22,382,824	63.45	651,927	990,355	1,604,858	1,317,931	1,897,160	427,821	543,265	506,224	446,606	454,367
USAF IL	FP6618 O'HARE ARFF	11,837	888,064	75.02	0	0	0	0	0	0	68,976	134,687	177,531	177,916
USAF IL	FP4407 SCOTT AFB	102,314	5,310,664	51.91	0	0	0	0	0	0	412,479	805,435	1,061,641	1,063,947
		114,151	6,198,728	54.30	0	0	0	0	0	0	481,455	940,122	1,239,171	1,241,863
USAF IN	FP4654 GRISSOM AFB/ARB	44,390	1,595,656	35.94	0	0	0	0	0	0	0	0	0	0
USAF MA	FP6606 WESTOVER ARB	14,782	1,066,758	72.17	0	0	0	0	0	0	0	0	0	0
USAF MA	FP2835 L G HANSCOM AFB	67,798	6,042,861	89.13	0	0	0	0	0	0	0	0	0	0
		82,580	7,109,619	86.09	0	0	0	0	0	0	0	0	0	0
USAF MD	FP4425 ANDREWS AFB	85,387	5,249,538	61.48	0	0	0	0	0	0	0	0	0	66,175
USAF MT	FP4626 MALMSTROM AFB	70,839	3,213,229	45.36	0	0	0	0	0	116,051	357,250	338,110	444,313	547,422
USAF NH	FY7743 NEW BOSTON	5,294	506,143	95.60	0	822	440	201	-496	-290	-349	344	1,064	662
USAF NJ	FY7994 GIBBSBORO AFS	50	5,738	115.20	0	139	702	377	0	0	0	0	0	0
USAF NJ	FP4484 MCGUIRE AFB	63,185	5,427,919	85.91	0	131,457	663,668	356,341	0	0	0	0	0	0

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		Total Cost Savings (\$)												
FY 1996														
MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006		
63,235	5,433,657	85.93	0	131,596	664,370	356,717	0	0	0	0	0	0		
92,742	4,788,833	51.64	0	0	0	0	0	0	0	0	0	119,452		
5,137	488,894	95.17	0	51,509	63,721	75,577	78,034	80,157	4,346	2,759	3,370	3,272		
7,073	580,008	82.00	0	0	0	0	0	0	0	0	0	5,482		
5,363	376,823	70.27	0	0	0	0	0	0	0	0	0	4,156		
12,436	956,831	76.94	0	0	0	0	0	0	0	0	0	9,638		
51,651	1,601,447	31.01	0	0	182,223	234,754	285,755	335,271	447,402	-67,611	-74,377	-76,237		
42,880	1,129,645	26.34	0	0	128,538	165,593	201,569	236,497	315,593	-56,129	-61,747	-63,290		
94,530	2,731,092	28.89	0	0	310,761	400,347	487,324	571,768	762,996	-123,740	-136,124	-139,527		
TOTAL (AIR FORCE)		1,150,544	69,504,998	651,927	1,174,282	2,644,151	2,150,774	2,462,023	1,195,506	2,148,962	1,663,818	1,998,401	2,303,324	
38,837	2,887,196	74.34	0	0	0	0	0	0	0	0	0	0	0	
34,257	2,921,830	85.29	85,102	129,280	209,497	172,041	247,653	41,545	52,756	49,159	43,369	44,123		
16,869	1,195,328	70.86	34,815	52,889	85,706	70,383	101,316	20,458	25,978	24,207	21,356	21,727		
129,690	8,568,710	66.07	249,574	379,133	614,380	504,537	726,281	157,282	199,723	186,105	164,188	167,041		
69,877	5,707,850	81.68	166,248	252,551	409,255	336,086	483,795	84,743	107,611	100,273	88,464	90,002		
250,693	18,393,718	73.37	535,739	813,852	1,318,838	1,083,047	1,559,045	304,028	386,067	359,744	317,377	322,893		
TOTAL (MARINE CORPS)		289,530	21,280,914	535,739	813,852	1,318,838	1,083,047	1,559,045	304,028	386,067	317,377	322,893		
TOTAL (ALL SERVICES)		6,920,366	404,664,352	4,082,240	10,446,040	21,317,694	19,064,449	20,179,282	12,032,303	13,163,764	5,044,564	5,509,431	6,840,741	

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					2007	2008	2009	2010	2011	Total	NPV
Army	AZ	NA	YUMA PG		0	17,068	16,324	16,744	13,848	63,984	37,823
Army	AZ	NA	FT HUACHUCA		0	113,634	108,679	111,480	92,200	425,993	251,818
					0	130,702	125,003	128,224	106,048	489,977	289,641
Army	CA	NA	SIERRA AD		15,355	15,355	13,883	12,927	11,106	581,942	478,304
Army	CA	NA	FT IRWIN		119,216	119,216	107,786	100,366	86,229	3,794,312	3,080,075
Army	CA	NA	SHARPE AD		24,215	24,215	21,893	20,386	17,515	582,510	480,939
					158,786	158,786	143,562	133,680	114,850	4,958,764	4,019,318
Army	IL	NA	C. M. PRICE SC		122,732	3,841	3,941	3,699	2,628	452,794	311,727
Army	IL	NA	ROCK ISLAND Ars		973,613	37,231	38,205	35,852	25,470	3,616,786	2,487,603
Army	IL	NA	SAVANNA AD		50,097	2,248	2,306	2,164	1,538	187,320	128,722
					1,146,442	43,320	44,453	41,716	29,635	4,256,901	2,928,052
Army	IN	NA	NEWPORT AAP		0	1,107	1,046	811	328	3,291	1,969
Army	MA	NA	NATICK R & D CENTER		0	3,090	6,553	4,784	4,311	18,738	11,022
Army	MD	NA	ABERDEEN ARMY PG		198,342	186,752	182,274	168,577	146,978	1,087,060	671,821
Army	MD	NA	FT DETRICK		105,587	99,417	97,034	89,742	78,244	578,696	357,644
Army	MD	NA	FT MEADE		41,166	38,760	37,831	34,988	30,505	225,619	139,436
					345,095	324,930	317,139	293,308	255,727	1,891,375	1,166,901
Army	MI	NA	DETROIT Ars		0	13,453	12,710	9,855	3,989	40,009	23,943
Army	MI	NA	SELFREDGE SC		0	9,410	8,891	6,894	2,790	27,985	16,748
					0	22,864	21,601	16,749	6,779	67,994	40,690
Army	NH	NA	COLD REGIONS LAB		500	1,108	2,350	1,715	1,546	11,266	7,428
Army	NJ	NA	FT MONMOUTH		0	68,799	67,149	62,103	54,146	1,805,871	1,520,306
Army	NJ	NA	FT DIX		0	62,388	60,893	56,317	49,101	1,806,192	1,527,422
Army	NJ	NA	PICATINNY Ars		0	36,438	35,564	32,892	28,677	1,003,144	846,412
Army	NJ	NA	BAYONNE MOT		0	17,495	17,075	15,792	13,769	497,269	420,180
					0	185,119	180,681	167,103	145,693	5,112,476	4,314,320
Army	NV	NA	HAWTHORNE AAP		12,553	12,553	11,350	10,569	9,080	69,704	43,143

					2007	2008	2009	2010	2011	Total	NPV
Amy	NY	NA	FT HAMILTON		14,537	13,308	15,374	12,668	10,257	1,154,999	956,123
Amy	NY	NA	U S MILITARY ACADEMY		50,611	46,329	53,523	44,103	35,710	4,222,332	3,499,603
Amy	NY	NA	FT DRUM		67,438	61,733	71,318	58,766	47,583	7,335,137	6,114,366
Amy	NY	NA	WATERVLIIET Ars		26,087	23,880	27,588	22,732	18,406	2,738,728	2,281,388
					158,673	145,249	167,802	138,269	111,957	15,451,196	12,851,479
Amy	PA	NA	LETTER KENNY AD		43,416	40,880	39,899	36,901	32,173	237,955	147,060
Amy	PA	NA	SCRANTON AAP		25,903	24,390	23,805	22,016	19,195	141,969	87,739
Amy	PA	NA	CARLISLE BARRACKS		16,141	15,197	14,833	13,718	11,961	88,462	54,671
Amy	PA	NA	TOBYHANNA AD		30,537	28,753	28,063	25,955	22,629	167,366	103,435
Amy	PA	NA	NEW CUMBERLAND AD		35,421	33,351	32,552	30,106	26,248	194,134	119,978
Amy	PA	NA	PHILADELPHIA DCS		17,165	16,162	15,774	14,589	12,720	94,075	58,140
Amy	PA	NA	KELLY SUP FAC		3,361	3,164	3,088	2,856	2,490	18,419	11,383
					171,944	161,897	158,015	146,141	127,417	942,380	582,406
Amy	WA	NA	FT LEWIS		-386,008	-397,347	-378,921	-392,386	-394,985	4,204,255	3,916,889
Navy	AZ	N66080	NSPASURSTA MARICOPA TOTAL	TOTAL (ARMY)	1,607,986	793,377	800,632	690,681	518,386	37,478,315	30,175,260
					0	1,215	1,162	1,192	986	4,556	2,693
Navy	CA	N65888	NARF SAN DIEGO TOTAL		75,978	75,978	68,694	63,965	54,955	1,787,881	1,411,410
Navy	CA	D60530	NWC CHINA LAKE MB		141,238	141,238	127,696	118,906	102,157	3,504,529	2,782,092
Navy	CA	D63126	PMTCC POINT MUGU MB		76,757	76,757	69,398	64,621	55,518	1,980,240	1,578,173
Navy	CA	N65885	NARF ALAMEDA TOTAL		33,582	33,582	30,362	28,272	24,290	1,190,750	974,327
Navy	CA	N61665	FCTC PAC SAN DIEGO TOTAL		11,154	11,154	10,085	9,390	8,068	295,387	236,008
Navy	CA	N91285	NIROP SUNNYYVALE TOTAL		33,747	33,747	30,512	28,411	24,409	833,763	681,594
Navy	CA	N70240	NCS SAN DIEGO TOTAL		20,954	20,954	18,945	17,641	15,156	524,530	416,775
Navy	CA	N00246	NAS NORTH ISLAND TOTAL		64,992	64,992	58,761	54,716	47,008	1,540,196	1,216,808
Navy	CA	N66001	NOSC SAN DIEGO TOTAL		73,970	73,970	66,878	62,274	53,502	1,968,206	1,573,261
Navy	CA	P63387	PWC SAN DIEGO MB+SHIP		382,074	382,074	345,442	321,662	276,353	8,760,947	6,896,480
Navy	CA	N68308	NNRC SAN FRANCISCO TOTAL		11,272	11,272	10,191	9,489	8,153	446,667	388,156
Navy	CA	N66022	NRDC SAN DIEGO TOTAL		6,077	6,077	5,494	5,116	4,395	140,876	111,030
Navy	CA	P00245	NS SAN DIEGO TOTAL		313,089	313,089	283,070	263,584	226,456	7,184,178	5,655,718
Navy	CA	N67030	MB VALLEJO TOTAL		357	357	322	300	258	6,617	5,071
Navy	CA	N63394	NSWSSES PORT HUENEME TOTAL		9,990	9,990	9,032	8,410	7,226	295,591	238,533

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			2007	2008	2009	2010	2011	Total	NPV
Navy	CA	N35723	548	548	496	461	396	10,718	8,274
		NDCB LEMOORE TOTAL							
Navy	CA	N68094	11,184	11,184	10,111	9,415	8,089	330,647	266,804
		NRMC CAMP PENDLETON TOTAL							
Navy	CA	N62474	2,040	2,040	1,845	1,718	1,476	73,261	59,998
		NFEC SAN BRUNO TOTAL							
Navy	CA	N63139	590	590	533	496	427	20,607	16,844
		NARU ALAMEDA TOTAL							
Navy	CA	P60036	2,792	2,792	2,524	2,350	2,019	114,612	94,669
		NWS CONCORD MB+SHIP							
Navy	CA	N61690	9,844	9,844	8,900	8,287	7,120	227,985	179,665
		FTC SAN DIEGO TOTAL							
Navy	CA	N62021	26,173	26,173	23,664	22,035	18,931	783,052	632,486
		NAB CORONADO TOTAL							
Navy	CA	N68350	1,517	1,517	1,372	1,277	1,097	56,333	46,239
		NRRC SAN DIEGO TOTAL							
Navy	CA	N65918	6,853	6,853	6,196	5,770	4,957	158,539	124,922
		SIMA SAN DIEGO TOTAL							
Navy	CA	N00259	41,015	41,015	37,082	34,529	29,666	1,182,385	952,024
		NMC SAN DIEGO TOTAL							
Navy	CA	N00948	13,896	13,896	12,564	11,699	10,051	399,158	321,290
		FAWTC SAN DIEGO TOTAL							
Navy	CA	P63406	59,463	59,463	53,762	50,061	43,009	1,601,066	1,281,221
		NAVSUBASE SAN DIEGO TOTAL							
Navy	CA	N63406	12,952	12,952	11,710	10,904	9,368	347,622	278,094
		NSB SAN DIEGO TOTAL							
Navy	CA	D60259	52,608	52,608	47,564	44,290	38,052	1,449,678	1,162,560
		NAS MIRAMAR MB							
Navy	CA	P62583	39,993	39,993	36,159	33,670	28,927	1,077,337	862,155
		NCBC PORT HUENEME MB+SHIP							
Navy	CA	D00396	2,938	2,938	2,656	2,473	2,125	72,922	57,892
		NWS SEAL BEACH DET FALLBROOK MB							
Navy	CA	N39353	4,322	4,322	3,908	3,639	3,126	113,162	90,316
		ICSTF SAN DIEGO TOTAL							
Navy	CA	D60701	24,370	24,370	22,033	20,516	17,627	533,097	417,386
		NWS SEAL BEACH MB							
Navy	CA	N63134	16,101	16,101	14,558	13,556	11,646	432,308	345,854
		FNOC MONTEREY TOTAL							
Navy	CA	N66095	3,326	3,326	3,007	2,800	2,405	65,194	50,347
		NH LEMOORE TOTAL							
Navy	CA	N66079	235	235	213	198	170	6,712	5,399
		NSPASURSTA CHULA VISTA TOTAL							
Navy	CA	N00244	23,794	23,794	21,513	20,032	17,210	689,185	555,139
		NSC SAN DIEGO TOTAL							
Navy	CA	N64267	15,491	15,491	14,006	13,042	11,205	360,999	284,681
		FACNWC CORONA TOTAL							
Navy	CA	N62791	1,404	1,404	1,270	1,182	1,016	32,752	25,830
		SHIPBUILDING C&R SAN DIEGO TOTAL							
Navy	CA	P00246	55,190	55,190	49,898	46,463	39,919	1,294,760	1,021,787
		NAS NORTH ISLAND SAN DIEGO TOTAL							
Navy	CA	D62271	20,150	20,150	18,218	16,964	14,574	567,372	455,887
		NPGS MONTEREY MB							
Navy	CA	D60042	5,849	5,849	5,288	4,924	4,230	163,524	131,310
		NAF EL CENTRO MB							
			1,709,870	1,709,870	1,545,930	1,439,512	1,236,744	42,625,344	33,854,512
Navy	CT	N00750	944	2,090	4,434	3,237	2,916	117,716	100,294
		SUBSCOL GROTON TOTAL							
Navy	CT	B00129	7,111	15,746	33,396	24,380	21,968	886,110	754,944
		NAV SUBASE NEW LONDON MB+SHIP							
Navy	CT	N61726	301	666	1,412	1,030	928	37,602	32,042
		NAVSUBMEDCTR NEW LONDON TOTAL							
Navy	CT	N92782	396	878	1,862	1,359	1,225	80,526	69,799
		NWRP BLOOMFIELD TOTAL							
Navy	CT	N70024	1,244	2,755	5,844	4,266	3,844	211,993	182,795
		NUSC NEW LONDON TOTAL							
			9,996	22,135	46,947	34,273	30,881	1,333,948	1,139,874
Navy	IL	D65113	23,913	988	1,014	951	676	89,101	61,258
		PWC GREAT LAKES MB							



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				2007	2008	2009	2010	2011	Total	NPV
Navy	IL	N68330	NRRC GREAT LAKES TOTAL	70,657	1,840	1,888	1,772	1,259	259,311	178,654
Navy	IL	N00210	NTC GREAT LAKES TOTAL	1,052,281	39,495	40,528	38,032	27,018	3,906,289	2,666,982
Navy	IL	N68326	NRDC GREAT LAKES TOTAL	16,496	683	700	657	467	61,470	42,260
Navy	IL	N00211	NRMC GREAT LAKES TOTAL	172,782	7,151	7,338	6,886	4,892	643,850	442,646
				1,336,130	50,156	51,467	48,298	34,311	4,960,021	3,411,900
Navy	IN	D00164	NWSC CRANE MB	0	27,856	26,318	20,406	8,260	82,840	49,575
Navy	MA	N91041	NIROP PITTSFIELD TOTAL	0	4,297	9,113	6,653	5,995	26,058	15,327
Navy	MA	N93880	NWIRP BEDFORD TOTAL	0	790	1,676	1,223	1,102	4,792	2,819
				0	5,087	10,789	7,876	7,097	30,849	18,146
Navy	MD	D00161	USNA ANNAPOLIS MB	56,427	53,130	51,856	47,959	41,814	309,261	191,128
Navy	MD	N0431A	AMSORRDRESINS BETHESDA TOTAL	7,465	7,029	6,860	6,345	5,532	40,915	25,286
Navy	MD	N66843	NRC SOLOMONS ISLAND TOTAL	3,318	3,125	3,050	2,820	2,459	18,188	11,240
Navy	MD	N68336	UNISRUOSHEASCN BETHESDA TOTAL	13,416	12,632	12,329	11,403	9,942	73,531	45,443
Navy	MD	N66098	NH PATUXENT RIVER TOTAL	2,192	2,064	2,014	1,863	1,624	12,014	7,425
Navy	MD	D00421	NATC PATUXENT RIVER MB	98,291	92,547	90,328	83,540	72,837	538,706	332,929
Navy	MD	N00168	NMC BETHESDA TOTAL	59,681	56,194	54,847	50,725	44,226	327,098	202,152
Navy	MD	D0417A	NSF THURMONT MB	6,597	6,212	6,063	5,607	4,889	36,157	22,345
Navy	MD	D61533	NSRDC ANNAPOLIS MB	13,919	13,106	12,792	11,830	10,315	76,288	47,147
Navy	MD	D00174	NOS INDIAN HEAD MB	20,658	19,451	18,984	17,558	15,308	113,220	69,972
Navy	MD	N00167	NSRDC BETHESDA TOTAL	22,838	21,503	20,988	19,411	16,924	125,168	77,356
Navy	MD	N35328	NRTF ANNAPOLIS TOTAL	5,213	4,908	4,791	4,431	3,863	28,571	17,657
Navy	MD	N63822	EMCAC ANNAPOLIS TOTAL	854	804	785	726	633	4,680	2,892
Navy	MD	N0464A	NEODTC INDIAN HEAD TOTAL	13,064	12,300	12,006	11,103	9,681	71,599	44,250
Navy	MD	N00788	NCS CHELTENHAM TOTAL	4,307	4,055	3,958	3,661	3,192	23,606	14,589
Navy	MD	N62640	NSEOD INDIAN HEAD TOTAL	1,349	1,271	1,240	1,147	1,000	7,396	4,571
Navy	MD	N00162	NRMC ANNAPOLIS TOTAL	1,119	1,054	1,028	951	829	6,133	3,790
				330,709	311,384	303,918	281,080	245,067	1,812,529	1,120,173
Navy	ME	N30316	NASTROGRP DET ALPHA PROSPECT HAR TOT	49	109	231	168	152	995	618
Navy	ME	D63038	NCU EAST MACHIAS MB	202	447	949	693	624	4,091	2,541
Navy	ME	D60087	NAS BRUNSWICK MB	1,479	3,275	6,946	5,071	4,569	29,949	18,603
Navy	ME	D00702	NSGA WINTER HARBOR MB	573	1,270	2,693	1,966	1,771	11,610	7,211
				2,303	5,100	10,818	7,898	7,116	46,645	28,973

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				2007	2008	2009	2010	2011	Total	NPV
Navy	NH	D00102	NSY PORTSMOUTH MB	3,153	6,981	14,807	10,810	9,740	70,996	46,810
Navy	NJ	D68335	NAEC LAKEHURST MB	0	21,482	20,967	19,391	16,907	627,321	530,698
Navy	NJ	N63094	NATTC LAKEHURST TOTAL	0	461	450	416	363	13,921	11,794
Navy	NJ	B60478	NWS COLTS NECK MB+SHIP	0	18,413	17,972	16,621	14,492	575,733	488,443
			.	0	40,356	39,389	36,429	31,761	1,216,975	1,030,935
Navy	NV	D60495	NAS FALLON MB	33,891	33,891	30,642	28,533	24,513	188,183	116,477
Navy	PA	N31093	DEFENSE DEPOT MECHANICSBURG TOTAL	16,260	15,309	14,942	13,820	12,049	89,114	55,074
Navy	PA	D00104	SPCC MECHANICSBURG MB	43,470	40,930	39,948	36,947	32,213	238,248	147,241
Navy	PA	D00158	NAS WILLOW GROVE MB	15,555	14,647	14,295	13,221	11,527	85,256	52,689
				75,285	70,886	69,186	63,987	55,789	412,617	255,004
Navy	RI	N00124	NWC NEWPORT TOTAL	6,040	6,046	6,060	6,044	5,984	334,565	283,198
Navy	RI	N66604	NUSC NEWPORT TOTAL	41,950	41,992	42,093	41,982	41,565	2,234,613	1,887,850
Navy	RI	D62661	NETC NEWPORT MB	23,436	23,460	23,516	23,454	23,221	1,299,667	1,100,184
Navy	RI	N68351	NRRC NEWPORT TOTAL	2,037	2,039	2,044	2,039	2,019	133,781	114,103
Navy	RI	N68086	NRMC NEWPORT TOTAL	3,004	3,007	3,014	3,006	2,976	166,602	141,032
				76,467	76,544	76,727	76,524	75,764	4,169,227	3,526,366
Navy	WA	D68436	NSB BREMERTON MB	-81,855	-84,260	-80,352	-83,208	-83,759	977,255	899,992
Navy	WA	N00621	NARU WHIDBEY ISLAND TOTAL	-2,559	-2,634	-2,512	-2,601	-2,618	45,818	40,494
Navy	WA	N00253	NAVUNWARENGSTA KEYPORT TOTAL	-77,738	-80,021	-76,310	-79,022	-79,545	1,194,047	1,070,017
Navy	WA	N00406	NSC PUGET SOUND TOTAL	-14,271	-14,691	-14,009	-14,507	-14,603	148,721	139,376
Navy	WA	P00251	NSY PUGET SOUND MB+SHIP	-367,209	-377,996	-360,467	-373,277	-375,749	3,339,766	3,192,050
Navy	WA	N55639	NISMF BREMERTON TOTAL	-3,082	-3,172	-3,025	-3,133	-3,153	20,482	20,680
Navy	WA	N68438	TRIREFAC BREMERTON TOTAL	-54,897	-56,510	-53,890	-55,805	-56,174	322,782	334,317
Navy	WA	N70273	NRS JIM CREEK OSO TOTAL	-14,528	-14,955	-14,261	-14,768	-14,866	81,799	85,541
Navy	WA	N68095	NRMC BREMERTON TOTAL	-16,446	-16,929	-16,144	-16,718	-16,829	482,446	412,432
Navy	WA	P68436	NAVSUBASE BANGOR BREMERTON SHIP TOTAL	-33,608	-34,595	-32,991	-34,163	-34,390	401,661	369,858
Navy	WA	N68437	NTF BREMERTON TOTAL	-33,876	-34,871	-33,254	-34,436	-34,664	342,535	322,350
Navy	WA	N66097	NH WHIDBEY ISLAND TOTAL	-6,240	-6,424	-6,126	-6,343	-6,385	128,081	111,986
Navy	WA	D00620	NAS WHIDBEY ISLAND MB	-103,738	-106,785	-101,833	-105,452	-106,150	1,729,448	1,538,024
Navy	WA	P68328	NRRC SEATTLE TOTAL	-3,346	-3,445	-3,285	-3,402	-3,424	109,962	93,469
Navy	WA	N63402	SWFPAC BREMERTON TOTAL	-48,469	-49,893	-47,579	-49,270	-49,597	579,041	533,219
				-861,863	-887,181	-846,039	-876,104	-881,906	9,903,845	9,163,805

DOD Electric Power Cost Savings  
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		<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>Total</u>	<u>NPV</u>
	<b>TOTAL (NAVY)</b>	<b>2,715,941</b>	<b>1,474,281</b>	<b>1,392,060</b>	<b>1,180,715</b>	<b>886,124</b>	<b>66,858,575</b>	<b>53,765,144</b>
USAF AZ	FP4887 LUKE AFB	0	65,112	62,273	63,877	52,830	244,091	144,290
USAF AZ	FP4877 DAVIS MONTHAN AF	0	68,929	65,923	67,622	55,927	258,401	152,749
		<b>0</b>	<b>134,040</b>	<b>128,196</b>	<b>131,499</b>	<b>108,757</b>	<b>502,492</b>	<b>297,038</b>
USAF CA	EY7765 PILLAR POINT AFS	1,051	1,051	950	885	760	36,265	29,617
USAF CA	EY7396 LOS ANGELES AFS	34,148	34,148	30,874	28,748	24,699	1,106,555	899,509
USAF CA	EY1525 ANDERSON PEAK	47	47	42	39	34	1,974	1,634
USAF CA	EY9887 SANTA YNEZ PEAK	71	71	64	60	51	2,625	2,154
USAF CA	FY9749 POINT ARENA AFS	1,954	1,954	1,766	1,645	1,413	62,706	50,936
USAF CA	FP4427 TRAVIS AFB	18,694	18,694	16,902	15,738	13,521	517,287	414,992
USAF CA	FB4610 VANDENBERG AFB	223,350	223,350	201,935	188,035	161,548	5,040,975	3,961,106
USAF CA	FY7311 ONIZUKA AFB	27,277	27,277	24,662	22,964	19,730	755,222	605,907
USAF CA	FP2805 EDWARDS AFB	112,851	112,851	102,031	95,008	81,625	3,191,521	2,565,403
		<b>419,443</b>	<b>419,443</b>	<b>379,227</b>	<b>353,122</b>	<b>303,382</b>	<b>10,715,131</b>	<b>8,531,257</b>
USAF IL	FP6618 O'HARE ARFF	217,185	5,433	5,575	5,232	3,717	796,253	548,662
USAF IL	FP4407 SCOTT AFB	1,298,778	46,962	48,190	45,223	32,127	4,814,780	3,312,521
		<b>1,515,963</b>	<b>52,396</b>	<b>53,765</b>	<b>50,455</b>	<b>35,844</b>	<b>5,611,033</b>	<b>3,861,183</b>
USAF IN	FP4654 GRISSOM AFB/ARB	0	15,270	14,427	11,186	4,528	45,411	27,176
USAF MA	FP6606 WESTOVER ARB	0	1,833	3,888	2,838	2,557	11,116	6,539
USAF MA	FP2835 L G HANSCOM AFB	0	8,407	17,831	13,017	11,729	50,984	29,990
		<b>0</b>	<b>10,240</b>	<b>21,719</b>	<b>15,855</b>	<b>14,286</b>	<b>62,100</b>	<b>36,528</b>
USAF MD	FP4425 ANDREWS AFB	64,296	60,539	59,088	54,648	47,646	352,392	217,764
USAF MT	FP4626 MALMSTROM AFB	647,528	-119,150	-113,625	-117,663	-118,442	1,981,793	1,436,485
USAF NH	FY7743 NEW BOSTON	296	657	1,392	1,017	916	6,676	4,402
USAF NJ	FY7994 GIBBSBORO AFS	0	35	34	32	28	1,347	1,151
USAF NJ	FP4484 MCGUIRE AFB	0	44,798	43,724	40,438	35,257	1,315,664	1,113,310

DOD Electric Power Cost Savings  
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		2007	2008	2009	2010	2011	Total	NPV
		0	44,833	43,758	40,470	35,285	1,317,031	1,114,460
USAF NV	FP4852 NELLIS AFB	110,270	110,270	99,698	92,835	79,758	612,283	378,974
USAF NY	FP6670 NIAGARA FALLS	3,036	2,779	3,211	2,646	2,142	376,558	314,612
USAF PA	FP6637 WILLOW GROVE ARS	5,326	5,015	4,895	4,527	3,947	29,191	18,041
USAF PA	FP6712 PITTSBURGH IAP	4,038	3,802	3,711	3,432	2,992	22,132	13,678
		9,364	8,817	8,606	7,969	6,939	51,323	31,719
USAF WA	FB4620 FAIRCHILD AFB	-84,397	-86,877	-82,848	-85,792	-86,360	840,908	792,994
USAF WA	FP4479 MCCHORD AFB	-70,065	-72,123	-68,779	-71,223	-71,695	512,739	508,268
		-154,463	-159,000	-151,627	-157,015	-158,055	1,353,647	1,301,262
TOTAL (AIR FORCE)		2,615,735	581,134	547,835	487,014	362,986	22,987,871	17,552,879
USMC AZ	K62974 MCAS YUMA MB	0	40,973	39,187	40,196	33,244	153,600	90,798
USMC CA	K62204 MCLB BARSTOW MB	40,732	40,732	36,826	34,291	29,461	1,256,567	1,017,511
USMC CA	K00243 MCRD SAN DIEGO MB	20,057	20,057	18,134	16,886	14,507	548,476	439,538
USMC CA	K00681 MCB CAMP PENDLETON MB	154,201	154,201	139,417	129,820	111,533	4,037,416	3,222,288
USMC CA	K67399 MCCOMB AT CTR 29 PALMS MB	83,084	83,084	75,118	69,947	60,094	2,490,355	2,011,822
		298,074	298,074	269,495	250,944	215,596	8,332,814	6,691,159
TOTAL (MARINE CORPS)		298,074	339,047	308,682	291,140	248,840	8,486,414	6,781,957
TOTAL (ALL SERVICES)		7,237,735	3,187,839	3,039,208	2,649,550	2,016,336	135,811,175	108,275,240

**APPENDIX C-2.1**

**ESTIMATED COST**

**SAVINGS -- MILITARY**

**FAMILY HOUSING**

**17-STATE SUBGROUP**

**(SORTED BY SERVICE)**

**Group of 17 - Military Family Housing Only**

		Total Cost Savings (1996\$)															
FY 1996		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
Navy	CA	D60530	NWC CHINA LAKE MFH	4,400	313,842	71,328	6,152	15,027	20,654	20,053	25,185	5,336	6,776	6,314	5,570	5,667	5,232
Navy	CA	P62583	NCBC PORT HUENEME MFH	4,773	323,893	67,859	6,349	15,508	21,316	20,695	25,992	5,788	7,350	6,849	6,043	6,148	5,675
Navy	CA	D63126	PMTC POINT MUGU MFH	6,941	470,087	67,726	9,215	22,508	30,937	30,036	37,724	8,418	10,689	9,960	8,787	8,940	8,253
Navy	CA	D60259	NAS MIRAMAR MFH	1,147	89,747	78,245	1,759	4,297	5,906	5,734	7,202	1,391	1,766	1,646	1,452	1,477	1,364
Navy	CA	P63387	PWC SAN DIEGO MFH	63,294	4,652,177	73,501	91,194	222,748	306,163	297,246	373,330	76,760	97,473	90,827	80,130	81,523	75,257
Navy	CA	D60042	NAF EL CENTRO MFH	664	47,683	71,812	935	2,283	3,138	3,047	3,826	805	1,023	953	841	855	789
Navy	CA	P60036	NWS CONCORD MFH	2,813	289,802	103,022	5,681	13,876	19,072	18,517	23,256	3,411	4,332	4,037	3,561	3,623	3,345
Navy	CA	D00396	NWS SEAL BEACH DET FALLBROOK MFH	12	1,964	163,667	38	94	129	125	158	15	18	17	15	15	14
Navy	CA	D60701	NWS SEAL BEACH MFH	56	7,156	127,786	140	343	471	457	574	68	86	80	71	72	67
Navy	CA	D62271	NPGS MONTEREY MFH	5,855	388,560	66,364	7,617	18,604	25,571	24,827	31,181	7,101	9,017	8,402	7,412	7,541	6,962
				89,955	6,584,911	73,202	129,080	315,287	433,358	420,736	528,428	109,093	138,531	129,085	113,883	115,862	106,956
Navy	CT	B00129	NAV SUBASE NEW LONDON MFH	8,363	535,644	64,049	4,686	18,291	32,997	23,637	0	0	0	0	1,681	1,045	468
Navy	IL	D65113	PWC GREAT LAKES MFH	23,902	774,536	32,405	0	0	0	0	0	69,436	126,002	169,813	167,015	193,890	10,971
Navy	IN	D00164	NWSC CRANE MFH	698	25,372	36,350	0	0	0	0	0	0	0	0	0	0	240
Navy	MD	D0417A	NSF THURMONT MFH	549	35,587	64,821	0	0	0	0	0	0	0	0	0	425	413
Navy	MD	D00174	NOS INDIAN HEAD MFH	2,871	193,704	67,469	0	0	0	0	0	0	0	0	0	2,225	2,162
Navy	MD	D00161	USNA ANNAPOLIS MFH	6,160	372,056	60,399	0	0	0	0	0	0	0	0	0	4,774	4,638
Navy	MD	D00421	NATC PATUXENT RIVER MFH	14,476	744,466	51,428	0	0	0	0	0	0	0	0	0	11,219	10,900
Navy	MD	D61533	NSRDC ANNAPOLIS MFH	387	21,757	56,220	0	0	0	0	0	0	0	0	0	300	291
				24,443	1,367,570	55,949	0	0	0	0	0	0	0	0	0	18,943	17,330
Navy	ME	D00702	NSGA WINTER HARBOR MFH	1,660	165,216	99,528	0	0	0	0	0	0	0	0	334	208	93
Navy	ME	D60087	NAS BRUNSWICK MFH	8,935	829,355	92,821	0	0	0	0	0	0	0	0	1,796	1,117	500
Navy	ME	D63038	NCU EAST MACHIAS MFH	540	48,319	89,480	0	0	0	0	0	0	0	0	109	68	30
				11,135	1,042,890	93,659	0	0	0	0	0	0	0	0	2,238	1,392	624
Navy	NH	D00102	NSY PORTSMOUTH MFH	3,029	385,663	127,324	0	59,855	11	0	-5,602	-1	0	-364	-0	0	-20
Navy	NJ	B60478	NWS COLTS NECK MFH	5,115	508,677	99,448	0	12,428	56,962	34,807	0	0	0	0	0	0	3,627
Navy	NJ	D68335	NAEC LAKEHURST MFH	5,906	627,110	106,182	0	15,321	70,225	42,911	0	0	0	0	0	0	4,187
				11,021	1,135,787	103,057	0	27,749	127,187	77,718	0	0	0	0	0	0	7,814
Navy	NV	D60495	NAS FALLON MFH	2,336	237,796	101,796	0	0	0	0	0	0	0	0	0	3,009	2,778

DOD Electric Power Cost Savings  
Group of 17 - Military Family Housing Only

		Total Cost Savings (1996\$)																									
		FY 1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008	
		MWh	\$	\$/MWh																							
Navy	PA	D00158		4,047	301,430		74,482		0	0	0	0	0	0	0	0	0	0	0	0	0	3,136	3,047	2,869	2,869		
Navy	PA	D00104		1,226	72,074		58,788		0	0	0	0	0	0	0	0	0	0	0	0	0	950	923	869	869		
				5,273	373,504		70,833		0	0	0	0	0	0	0	0	0	0	0	0	0	4,087	3,971	3,739	3,739		
Navy	RI	D62861		11,258	1,171,267		104,039		0	132,491	161,954	190,558	-2,634	-1,542	-743	732	2,263	1,407	630	1,396							
Navy	WA	P00251		9,308	667,875		71,753		0	108,503	201,597	205,091	222,893	240,177	-12,184	-13,404	-13,739	-15,209	-15,656								
Navy	WA	D00620		22,850	1,551,207		67,887		0	252,008	468,230	476,346	517,692	557,835	-29,911	-32,904	-33,727	-37,337	-38,434								
Navy	WA	D68436		24,352	852,472		35,006		0	138,492	257,317	261,778	284,500	306,560	-31,877	-35,067	-35,944	-39,791	-40,960								
				56,510	3,071,554		54,354		0	499,003	927,144	943,215	1,025,086	1,104,572	-73,972	-81,374	-83,409	-92,337	-95,050								
TOTAL (NAVY)		247,923	16,706,494						133,767	553,674	1,254,509	1,639,793	1,463,406	1,132,636	1,311,796	181,484	208,503	229,352	235,365	58,592							
USAF	AZ	RP4877		20,453	1,456,924		71,232		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21,578		
USAF	AZ	RP4887		13,531	798,692		59,026		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14,275		
				33,984	2,255,616		66,372		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35,854		
USAF	CA	RP4427		14,034	788,252		56,167		15,452	37,742	51,875	50,364	63,256	17,020	21,612	20,139	17,767	18,076	16,686								
USAF	CA	RY7396		3,264	258,845		79,303		5,074	12,394	17,035	16,539	20,772	3,958	5,027	4,684	4,132	4,204	3,881								
USAF	CA	RP2805		19,707	966,349		49,036		18,943	46,269	63,596	61,744	77,548	23,900	30,349	28,280	24,949	25,383	23,432								
USAF	CA	RY9749		548	49,528		90,444		971	2,371	3,259	3,165	3,975	664	843	786	693	705	651								
USAF	CA	RB4610		9,057	490,282		54,132		9,611	23,475	32,266	31,326	39,344	10,984	13,948	12,997	11,466	11,666	10,769								
				46,610	2,553,256		54,779		50,050	122,251	168,032	163,137	204,895	56,526	71,779	66,885	59,008	60,033	55,419	55,419							
USAF	IL	RP4407		31,887	1,683,027		52,782		0	0	0	0	0	0	150,880	273,797	368,995	362,916	421,314	14,636							
USAF	MA	RP2835		9,206	847,210		92,025		0	0	0	0	0	0	-608	598	1,850	1,151	516	1,142							
USAF	MD	RP4425		56,523	2,254,621		39,888		0	0	0	0	0	0	0	0	0	0	43,806	42,562	40,075						
USAF	MT	RP4626		14,473	575,514		39,765		0	0	0	0	0	20,488	53,168	72,479	78,439	96,642	101,525	-24,343							
USAF	NJ	RP4484		20,560	1,752,981		85,263		0	42,829	196,301	119,950	0	0	0	0	0	0	0	14,577							
USAF	NV	RP4852		23,166	1,241,651		53,597		0	0	0	0	0	0	0	0	0	0	29,838	27,545	27,545						

DOD Electric Power Cost Savings  
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		Total Cost Savings (1996\$)																			
		FY 1996																			
		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008					
USAF	WA	RB4620	FAIRCHILD AFB	14,241	519,361	36.471	0	0	84,375	156,768	159,486	173,329	186,769	-18,641	-20,506	-21,019	-23,269	-23,953			
	WA	RP4479	MCCHORD AFB	38,526	1,030,318	26.743	0	0	167,385	311,000	316,391	343,853	370,516	-50,430	-55,477	-56,864	-62,951	-64,801			
				52,766	1,549,679	29.369	0	0	251,760	467,768	475,876	517,182	557,285	-69,071	-75,984	-77,883	-86,220	-88,753			
				TOTAL (AIR FORCE)				289,176	14,713,555	50,050	165,079	616,093	750,856	680,771	594,196	832,505	344,688	432,308	516,503	562,660	76,150
USMC	AZ	K62974	MCAS YUMA MFH	12,207	876,354	71.791	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,878
USMC	CA	K00243	MCRD SAN DIEGO MFH	68	5,988	88.059	117	287	394	383	481	82	105	98	86	88	81				81
USMC	CA	K00681	MCB CAMP PENDLETON MFH	33,134	3,001,978	90.601	58,846	143,736	197,562	191,808	240,904	40,183	51,026	47,547	41,948	42,677	39,396				39,396
USMC	CA	K62204	MCLB BARSTOW MFH	1,940	232,782	119.991	4,563	11,146	15,320	14,873	18,680	2,353	2,988	2,784	2,456	2,489	2,307				2,307
USMC	CA	K67399	MCCOMBATCTR 29 PALMS MFH	21,243	1,820,988	85.722	35,696	87,189	119,841	116,350	146,131	25,762	32,714	30,484	26,894	27,361	25,258				25,258
				56,385	5,061,736	89.771	99,222	242,357	333,116	323,414	406,196	68,381	86,833	80,912	71,383	72,624	67,042				67,042
				TOTAL (MARINE CORPS)				68,592	5,938,090	99,222	242,357	333,116	323,414	406,196	68,381	86,833	80,912	71,383	72,624	67,042	79,920
				TOTAL (ALL SERVICES)				605,691	37,358,139	283,039	961,111	2,203,719	2,714,063	2,550,373	1,795,212	2,231,133	607,084	712,195	818,478	865,067	214,662



DOD Electric Power Cost Savings  
Group of 17 - Military Family Housing Only

			2009	2010	2011	Total	NPV	
Navy	CA	D60530	NWC CHINA LAKE MFH	4,730	4,404	3,784	140,116	111,885
Navy	CA	P62583	NCBC PORT HUENEME MFH	5,131	4,778	4,105	147,402	117,361
Navy	CA	D63126	PMTC POINT MUGU MFH	7,462	6,948	5,969	214,098	170,444
Navy	CA	D60259	NAS MIRAMAR MFH	1,233	1,148	986	38,727	31,088
Navy	CA	P63387	PWC SAN DIEGO MFH	68,041	63,357	54,433	2,053,736	1,642,784
Navy	CA	D60042	NAF EL CENTRO MFH	714	665	571	21,234	16,962
Navy	CA	P60036	NWS CONCORD MFH	3,024	2,816	2,419	114,314	93,124
Navy	CA	D00396	NWS SEAL BEACH DET FALLBROOK MFH	13	12	10	690	574
Navy	CA	D60701	NWS SEAL BEACH MFH	60	56	48	2,660	2,190
Navy	CA	D62271	NPGS MONTEREY MFH	6,294	5,861	5,035	178,387	141,844
			96,702	90,045	77,361	2,911,364	2,328,255	
Navy	CT	B00129	NAV SUBASE NEW LONDON MFH	2,199	1,606	1,447	89,096	76,848
Navy	IL	D65113	PWC GREAT LAKES MFH	11,258	10,565	7,505	766,456	626,801
Navy	IN	D00164	NWSC CRANE MFH	227	176	71	714	427
Navy	MD	D0417A	NSF THURMONT MFH	380	351	306	2,266	1,400
Navy	MD	D00174	NOS INDIAN HEAD MFH	1,987	1,837	1,602	11,849	7,323
Navy	MD	D00161	USNA ANNAPOLIS MFH	4,263	3,942	3,437	25,422	15,711
Navy	MD	D00421	NATC PATUXENT RIVER MFH	10,017	9,265	8,078	59,742	36,922
Navy	MD	D61533	NSRDC ANNAPOLIS MFH	268	248	216	1,597	987
			16,915	15,644	13,639	100,876	62,343	
Navy	ME	D00702	NSGA WINTER HARBOR MFH	437	319	287	1,882	1,169
Navy	ME	D60087	NAS BRUNSWICK MFH	2,350	1,716	1,546	10,132	6,294
Navy	ME	D63038	NCU EAST MACHIAS MFH	142	104	93	612	380
			2,929	2,138	1,926	12,627	7,843	
Navy	NH	D00102	NSY PORTSMOUTH MFH	0	-4	-0	53,874	50,462
Navy	NJ	B60478	NWS COLTS NECK MFH	3,540	3,274	2,854	117,491	99,749
Navy	NJ	D68335	NAEC LAKEHURST MFH	4,087	3,780	3,296	143,807	122,358
			7,627	7,053	6,150	261,298	222,107	
Navy	NV	D60495	NAS FALLON MFH	2,511	2,338	2,009	15,422	9,546

DOD Electric Power Cost Savings  
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			2009	2010	2011	Total	NPV
Navy	PA	D00158	2,801	2,590	2,258	16,702	10,322
Navy	PA	D00104	848	785	684	5,060	3,127
			3,649	3,375	2,942	21,762	13,449
Navy	RI	D62661	2,961	2,162	1,948	493,582	433,877
Navy	WA	P00251	-14,930	-15,461	-15,563	862,116	722,229
Navy	WA	D00620	-36,651	-37,954	-38,205	1,986,988	1,667,689
Navy	WA	D68436	-39,061	-40,449	-40,717	944,783	822,974
			-90,642	-93,863	-94,485	3,793,888	3,212,892
TOTAL (NAVY)			56,334	41,234	20,514	8,520,958	6,944,861
USAF	AZ	RP4877	20,637	21,169	17,508	80,893	47,818
USAF	AZ	RP4887	13,653	14,005	11,583	53,516	31,635
			34,290	35,174	29,091	134,409	79,453
USAF	CA	RP4427	15,087	14,048	12,069	387,880	305,333
USAF	CA	RY7396	3,509	3,267	2,807	111,163	89,303
USAF	CA	RP2805	21,185	19,727	16,948	505,682	394,719
USAF	CA	RY9749	589	548	471	20,343	16,460
USAF	CA	RB4610	9,736	9,066	7,789	245,212	192,588
			50,106	46,656	40,084	1,270,280	998,404
USAF	IL	RP4407	15,019	14,094	10,012	1,631,662	1,124,678
USAF	MA	RP2835	2,421	1,768	1,593	10,431	6,460
USAF	MD	RP4425	39,114	36,175	31,540	233,272	144,166
USAF	MT	RP4626	-23,215	-24,039	-24,199	326,944	239,435
USAF	NJ	RP4484	14,227	13,158	11,472	412,515	348,261
USAF	NV	RP4852	24,904	23,190	19,823	152,945	94,665

DOD Electric Power Cost Savings  
Group of 17 - Military Family Housing Only

				2009	2010	2011	Total	NPV
USAF	WA	RB4620	FAIRCHILD AFB	-22,842	-23,654	-23,810	583,034	506,112
USAF	WA	RP4479	MCCHORD AFB	-61,796	-63,992	-64,415	1,028,419	922,571
				-84,637	-87,645	-88,226	1,611,452	1,428,683
TOTAL (AIR FORCE)				72,229	58,530	31,291	5,783,910	4,464,205
USMC	AZ	K62974	MCAS YUMA MFH	12,317	12,634	10,449	48,279	28,539
USMC	CA	K00243	MCRD SAN DIEGO MFH	73	68	58	2,481	2,005
USMC	CA	K00681	MCB CAMP PENDLETON MFH	35,619	33,167	28,495	1,232,311	997,214
USMC	CA	K62204	MCLB BARSTOW MFH	2,085	1,942	1,668	87,970	72,196
USMC	CA	K67399	MCCOMBATCTR 29 PALMS MFH	22,836	21,264	18,269	761,307	614,233
				60,614	56,441	48,491	2,084,070	1,685,648
TOTAL (MARINE CORPS)				72,931	69,076	58,940	2,132,348	1,714,187
TOTAL (ALL SERVICES)				201,494	168,839	110,746	16,437,216	13,123,243

**APPENDIX C-3.1**

**ESTIMATED COST**

**SAVINGS -- MAIN BASE**

**31-STATE SUBGROUP**

**(SORTED BY SERVICE)**

**DOD Electric Power Cost Savings**  
**Group of 31 - Main Base Only**

		Total Savings (1996\$)																
		FY 1996																
MMW		\$	\$MMW	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		
Army	AL	NA	ANNISTON AD	68,258	2,851,644	41.78	0	0	0	0	0	0	0	140,890	152,783	225,853	296,796	
Army	AL	NA	REDSTONE A/s	407,407	21,443,769	52.63	0	0	0	0	0	0	0	1,059,466	1,148,896	1,698,370	2,231,841	
Army	AL	NA	FT RUCKER	131,966	5,301,946	40.18	0	0	0	0	0	0	0	261,952	284,063	419,920	551,820	
				607,631	29,597,359	48.71	0	0	0	0	0	0	0	1,462,307	1,585,742	2,344,144	3,080,456	
Army	AR	NA	PINE BLUFF A/s	24,287	1,442,995	59.41	0	0	0	0	0	0	0	38,527	105,993	142,308	177,566	
Army	CO	NA	FT CARSON	102,645	4,426,741	43.13	0	0	0	0	0	0	0	32,023	147,384	172,586	194,526	
Army	CO	NA	PUEBLO AD	776	85,274	109.89	0	0	0	0	0	0	0	617	2,859	3,325	3,747	
				103,421	4,512,015	43.63	0	0	0	0	0	0	0	32,640	150,223	175,910	198,273	
Army	DC	NA	WALTER REED AMC	131,063	8,023,346	61.22	0	0	0	0	0	0	0	210,321	414,516	612,763	805,236	
Army	GA	NA	FT BENNING	225,399	10,528,667	46.71	0	0	0	0	0	0	0	520,187	564,096	833,882	1,095,811	
Army	GA	NA	FT STEWART	158,064	7,512,719	47.53	0	0	0	0	0	0	0	371,179	402,510	595,016	781,914	
Army	GA	NA	FT MCPHERSON	57,119	2,885,639	50.52	0	0	0	0	0	0	0	142,570	154,604	228,546	300,334	
Army	GA	NA	FT GORDON	128,177	6,460,423	50.40	0	0	0	0	0	0	0	319,188	346,131	511,673	672,393	
Army	GA	NA	HUNTER AAF	50,750	2,456,620	48.41	0	0	0	0	0	0	0	121,373	131,619	194,567	255,682	
				619,499	29,844,068	48.17	0	0	0	0	0	0	0	1,474,497	1,598,960	2,363,684	3,106,133	
Army	KS	NA	FT LEAVENWORTH	91,709	4,061,438	44.29	0	0	0	0	0	0	0	108,436	298,328	400,540	499,774	
Army	KS	NA	FT RILEY	150,150	6,699,902	44.62	0	0	0	0	0	0	0	178,881	482,133	660,745	824,447	
				241,859	10,761,340	44.49	0	0	0	0	0	0	0	287,317	790,461	1,061,285	1,324,221	
Army	KY	NA	FT KNOX	221,405	7,176,175	32.41	0	0	0	0	0	0	0	188,113	370,748	548,062	720,213	
Army	KY	NA	BLUE GRASS AD	8,070	279,634	34.65	0	0	0	0	0	0	0	7,330	14,447	21,356	28,065	
Army	KY	NA	FT CAMPBELL	252,775	12,082,205	47.80	0	0	0	0	0	0	0	316,718	624,211	922,748	1,212,590	
				482,250	19,538,014	40.51	0	0	0	0	0	0	0	512,162	1,009,406	1,492,167	1,960,867	
Army	LA	NA	FT POLK	193,064	10,396,343	53.85	0	0	0	0	0	0	0	277,572	763,650	1,025,289	1,279,307	
Army	MO	NA	AVIATION/TPR CMD	1,786	94,815	53.09	0	0	0	0	0	0	0	593	5,322	7,867	8,231	
Army	MO	NA	LAKE CITY AAP	43,014	2,334,226	54.27	0	0	0	0	0	0	0	14,605	131,016	193,677	202,640	
Army	MO	NA	FT LEONARD WOOD	71,954	4,425,181	61.50	0	0	0	0	0	0	0	27,687	248,379	367,169	384,162	
				116,754	6,854,222	58.71	0	0	0	0	0	0	0	42,885	384,717	568,713	595,033	
Army	MS	NA	MISSISSIPPI AAP	9,443	440,134	46.61	0	0	0	0	0	0	0	21,746	23,581	34,859	45,809	

FY 1996	Total Savings (1996\$)
1996	1996

[illegible]

DOD Electric Power Cost Savings  
Group of 31 - Main Base Only

		Total Savings (1996\$)													FY 1996	

DOD Electric Power Cost Savings  
Group of 31 - Main Base Only

		Total Savings (1996\$)																
		FY 1996																
		MMWh	\$	\$/MMWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Navy	FL	N62701	NSWC FORT LAUDERDALE TOTAL	1,080	64,800	60.00	0	0	0	0	0	0	0	1,821	179	4,169	5,836	
Navy	FL	N68358	NRRC JACKSONVILLE TOTAL	4,376	301,032	68.79	0	0	0	0	0	0	0	8,460	830	19,367	27,110	
Navy	FL	N68836	NSC JACKSONVILLE TOTAL	3,099	147,271	47.52	0	0	0	0	0	0	0	4,139	406	9,475	13,263	
Navy	FL	N66452	NAVAEROMEDRSCHLAB PENSACOLA TOTAL	2,468	111,783	45.29	0	0	0	0	0	0	0	3,142	308	7,192	10,067	
Navy	FL	N65889	NARF PENSACOLA TOTAL	19,638	890,916	45.37	0	0	0	0	0	0	0	25,039	2,457	57,319	80,233	
Navy	FL	N68860	NSC PENSACOLA TOTAL	517	24,182	46.77	0	0	0	0	0	0	0	680	67	1,556	2,178	
Navy	FL	N68142	NAS PENSACOLA TOTAL	109,562	4,947,185	45.15	0	0	0	0	0	0	0	139,037	13,646	318,287	445,525	
Navy	FL	B00204	PWC PENSACOLA MB+SHIP	13,492	605,302	44.86	0	0	0	0	0	0	0	17,012	1,670	38,943	54,511	
Navy	FL	N68441	NRDC PENSACOLA TOTAL	896	40,239	44.91	0	0	0	0	0	0	0	1,131	111	2,569	3,624	
Navy	FL	N0751A	NAMI NAS PENSACOLA TOTAL	2,930	131,986	45.05	0	0	0	0	0	0	0	3,709	364	8,492	11,886	
Navy	FL	D61331	NCSC PANAMA CITY MB	24,151	1,138,573	47.14	0	0	0	0	0	0	0	31,999	3,141	73,252	102,536	
Navy	FL	N00232	NRMC JACKSONVILLE TOTAL	19,137	908,904	47.49	0	0	0	0	0	0	0	25,544	2,507	58,476	81,853	
Navy	FL	N68560	NARDAC JACKSONVILLE TOTAL	12,127	576,014	47.50	0	0	0	0	0	0	0	16,188	1,589	37,059	51,874	
Navy	FL	N10151	FTC MAYPORT TOTAL	1,846	87,706	47.51	0	0	0	0	0	0	0	2,465	242	5,643	7,898	
Navy	FL	N65886	NARF JACKSONVILLE TOTAL	58,455	2,776,214	47.49	0	0	0	0	0	0	0	78,023	7,658	178,613	250,016	
Navy	FL	N68734	NAVCOMSTA JACKSONVILLE TOTAL	1,496	70,720	47.27	0	0	0	0	0	0	0	1,988	195	4,550	6,369	
Navy	FL	D60508	NAS WHITING FIELD MB	25,861	1,223,123	47.30	0	0	0	0	0	0	0	34,375	3,374	78,692	110,150	
Navy	FL	N68322	NETPDC ELLYSON FIELD PENSACOLA TOTAL	15,706	743,919	47.37	0	0	0	0	0	0	0	20,907	2,052	47,862	66,995	
				646,844	32,424,679	50.13	0	0	0	0	0	0	0	911,271	89,438	2,086,106	2,920,048	
Navy	GA	N44466	TRIREFFAC KINGS BAY TOTAL	33,880	1,082,892	31.96	0	0	0	0	0	0	0	53,502	58,018	85,766	112,706	
Navy	GA	D62741	NSCS ATHENS MB	4,840	300,389	62.06	0	0	0	0	0	0	0	14,841	16,094	23,791	31,264	
Navy	GA	N66087	NSPASURSTA SAVANNAH TOTAL	164	12,901	78.66	0	0	0	0	0	0	0	637	691	1,022	1,343	
Navy	GA	D00196	NAS ATLANTA MB	9,117	502,966	55.17	0	0	0	0	0	0	0	24,850	26,947	39,835	52,348	
Navy	GA	B42237	NAVSUBASE KINGS BAY MB+SHIP	78,884	2,522,089	31.97	0	0	0	0	0	0	0	124,608	135,126	199,752	262,496	
Navy	GA	N66086	NSPASURSTA HAWKINSVILLE TOTAL	234	14,415	61.60	0	0	0	0	0	0	0	712	772	1,142	1,500	
Navy	GA	N68733	SWFATLANT KINGSBURY TOTAL	58,992	1,885,223	31.96	0	0	0	0	0	0	0	93,143	101,005	149,312	196,212	
Navy	GA	N68701	TRITRAFAC KINGS BAY TOTAL	24,310	776,588	31.95	0	0	0	0	0	0	0	38,369	41,607	61,507	80,826	
				210,421	7,097,463	33.73	0	0	0	0	0	0	0	350,662	380,262	562,127	738,695	
Navy	ID	N62182	NSRDC BAYVIEW TOTAL	4,049	184,277	45.51	0	0	0	0	0	0	0	6,655	13,117	19,390	18,110	
Navy	KS	N30924	NARC OLATHE TOTAL	232	25,576	110.24	0	0	0	0	0	0	0	683	1,879	2,522	3,147	
Navy	LA	N68307	NRRC NEW ORLEANS TOTAL	3,445	210,351	61.06	0	0	0	0	0	0	0	5,616	15,451	20,745	25,884	
Navy	LA	D00205	NSA NEW ORLEANS MB	40,164	2,354,379	58.62	0	0	0	0	0	0	0	62,860	172,938	232,189	289,715	
Navy	LA	D00206	NAS NEW ORLEANS MB	25,273	1,489,155	58.92	0	0	0	0	0	0	0	39,759	109,384	146,861	183,246	



DOD Electric Power Cost Savings  
Group of 31 - Main Base Only

Total Savings (1996\$)																	
FY 1996																	
MMWh	\$	\$/MMWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		
68,882	4,053,885	58.85	0	0	0	0	0	0	0	0	0	108,235	297,773	399,795	498,845		
Navy	MN	N68349															
			4,252	271,226	63.79	0	0	0	0	0	0	7,147	14,087	20,824	27,365		
Navy	MN	N30315	599	53,916	90.01	0	0	0	0	0	0	1,421	2,800	4,139	5,440		
Navy	MN	N91192	31,304	1,415,362	45.21	0	0	0	0	0	0	37,298	73,510	108,667	142,800		
			36,155	1,740,504	48.14	0	0	0	0	0	0	45,866	90,397	133,630	175,604		
Navy	MS	D62604	25,699	1,147,832	44.66	0	0	0	0	0	0	56,711	61,498	90,910	119,465		
Navy	MS	D63043	31,289	1,683,943	53.82	0	0	0	0	0	0	83,198	90,221	133,370	175,263		
Navy	MS	N66084	182	13,111	72.04	0	0	0	0	0	0	648	702	1,038	1,365		
Navy	MS	N62795	3,373	203,987	60.48	0	0	0	0	0	0	10,078	10,929	16,156	21,231		
			60,543	3,048,873	50.36	0	0	0	0	0	0	150,635	163,350	241,474	317,323		
Navy	NC	N68093	14,717	938,788	63.79	0	0	0	0	0	0	46,382	50,298	74,353	97,708		
Navy	NC	N65923	85,868	5,801,922	67.57	0	0	0	0	0	0	286,654	310,850	459,519	603,857		
			100,585	6,740,710	67.02	0	0	0	0	0	0	333,036	361,148	533,872	701,565		
Navy	NM	N61762	3,597	302,066	83.98	0	0	0	0	0	0	2,185	10,057	11,777	13,274		
Navy	NM	N66081	182	18,421	101.21	0	0	0	0	0	0	133	613	718	809		
			3,779	320,487	84.81	0	0	0	0	0	0	2,318	10,670	12,495	14,083		
Navy	OH	N68640	10,260	839,478	81.82	0	0	0	0	0	0	22,006	43,371	64,113	84,251		
Navy	SC	B00193	57,773	2,539,698	43.96	0	0	0	0	0	0	125,478	136,070	201,147	264,329		
Navy	SC	N63028	15,094	645,398	42.76	0	0	0	0	0	0	31,887	34,579	51,116	67,172		
Navy	SC	N68084	14,784	748,296	50.62	0	0	0	0	0	0	36,971	40,092	59,266	77,882		
Navy	SC	N68356	2,833	168,260	59.39	0	0	0	0	0	0	8,313	9,015	13,326	17,512		
Navy	SC	D61337	9,855	446,783	45.34	0	0	0	0	0	0	22,074	23,937	35,386	46,501		
Navy	SC	N45610	4,882	228,953	46.90	0	0	0	0	0	0	11,312	12,267	18,133	23,829		
			105,221	4,777,388	45.40	0	0	0	0	0	0	236,035	255,959	378,374	497,225		
Navy	TN	N68348	3,215	260,023	80.88	0	0	0	0	0	0	12,847	13,931	20,594	27,063		
Navy	TN	N63101	695	31,732	45.66	0	0	0	0	0	0	1,568	1,700	2,513	3,303		
Navy	TN	N60002	9,758	446,540	45.76	0	0	0	0	0	0	22,062	23,924	35,366	46,475		
Navy	TN	N94307	31,340	1,446,038	46.14	0	0	0	0	0	0	71,444	77,475	114,528	150,502		
			45,008	2,184,333	48.53	0	0	0	0	0	0	107,921	117,030	173,002	227,343		

DOD Electric Power Cost Savings  
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		Total Savings (1996\$)																
		FY 1996																
		MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Navy	TX	N66082	NSPASURSTA ARCHER CITY TOTAL	17,024	721,426	42.38	0	0	0	0	0	0	0	18,911	37,272	55,097	72,404	
Navy	TX	N91961	NWIRP DALLAS TOTAL	189,192	7,884,036	41.67	0	0	0	0	0	0	0	206,669	407,318	602,124	791,255	
Navy	TX	N95918	NIRP MCGREGOR TOTAL	34,012	1,369,408	40.26	0	0	0	0	0	0	0	35,897	70,749	104,585	137,436	
Navy	TX	D00216	NAS CORPUS CHRISTI MB	40,158	1,850,296	46.08	0	0	0	0	0	0	0	48,503	95,593	141,312	185,699	
Navy	TX	N68359	NRRC DALLAS TOTAL	4,367	311,891	71.42	0	0	0	0	0	0	0	8,176	16,113	23,820	31,302	
Navy	TX	D60241	NAS KINGSVILLE MB	21,036	1,164,909	55.38	0	0	0	0	0	0	0	30,536	60,183	88,967	116,912	
Navy	TX	N00285	NRMC CORPUS CHRISTI TOTAL	10,887	511,473	46.98	0	0	0	0	0	0	0	13,408	26,425	39,062	51,332	
				316,676	13,813,439	43.62	0	0	0	0	0	0	0	362,100	713,653	1,054,967	1,386,340	
Navy	UT	N63319	NSSPO MAGNA TOTAL	10,311	331,747	32.17	0	0	0	0	0	0	0	11,982	23,614	34,908	32,603	
Navy	VA	B00181	NSY PORTSMOUTH MB+SHIP	50,590	2,862,127	56.57	0	0	0	0	0	0	0	141,408	153,345	226,684	297,887	
Navy	VA	N68593	NAVOCEANPROFAC DAM NECK TOTAL	5,929	258,824	43.65	0	0	0	0	0	0	0	12,788	13,867	20,499	26,938	
Navy	VA	N55631	NISMF PORTSMOUTH TOTAL	447	25,164	56.30	0	0	0	0	0	0	0	1,243	1,348	1,993	2,619	
Navy	VA	N64619	GMSCOL VIRGINIA BEACH TOTAL	36,000	1,800,000	50.00	0	0	0	0	0	0	0	88,932	96,439	142,562	187,342	
Navy	VA	N45004	MARENVIRON SYS FAC DAM NECK TOTAL	6,452	282,691	43.81	0	0	0	0	0	0	0	13,967	15,146	22,389	29,422	
Navy	VA	N30018	NSRDC PORTSMOUTH TOTAL	215	11,911	55.40	0	0	0	0	0	0	0	588	638	943	1,240	
Navy	VA	N63061	NEOC NORFOLK TOTAL	944	39,380	41.72	0	0	0	0	0	0	0	1,946	2,110	3,119	4,099	
Navy	VA	B00187	PWC NORFOLK MB+SHIP	484,402	20,162,046	41.62	0	0	0	0	0	0	0	996,140	1,080,225	1,596,857	2,098,441	
Navy	VA	N65887	NARF NORFOLK TOTAL	35,021	1,455,230	41.55	0	0	0	0	0	0	0	71,898	77,967	115,256	151,459	
Navy	VA	N62470	LANTFLT NORFOLK TOTAL	4,793	200,874	41.91	0	0	0	0	0	0	0	9,925	10,762	15,909	20,907	
Navy	VA	N63273	COMBTDIRSYS VIRGINIA BEACH TOTAL	8,339	361,026	43.29	0	0	0	0	0	0	0	17,837	19,343	28,594	37,575	
Navy	VA	B61414	NPB LITTLE CREEK TOTAL	48,829	2,102,835	43.07	0	0	0	0	0	0	0	103,894	112,664	166,547	218,860	
Navy	VA	N61414	NAB LITTLE CREEK TOTAL	75,623	3,251,449	43.00	0	0	0	0	0	0	0	160,643	174,203	257,518	338,407	
Navy	VA	D60191	NAS OCEANA VIRGINIA BEACH MB	72,454	3,205,977	44.25	0	0	0	0	0	0	0	158,397	171,767	253,917	333,674	
Navy	VA	D00178	NSWC DAHLGREN MB	78,793	3,491,961	44.32	0	0	0	0	0	0	0	172,526	187,089	276,567	363,439	
Navy	VA	N68724	AEGISTRACEN DAHLGREN TOTAL	14,211	630,908	44.40	0	0	0	0	0	0	0	31,171	33,802	49,969	65,664	
Navy	VA	D00281	FCTC VIRGINIA BEACH MB	45,974	2,030,321	44.16	0	0	0	0	0	0	0	100,311	108,779	160,804	211,313	
Navy	VA	N53989	TACTGRULANT DAM NECK TOTAL	1,401	61,586	43.96	0	0	0	0	0	0	0	3,043	3,300	4,878	6,410	
Navy	VA	N0387A	NMITC DAM NECK VIRGINIA BEACH TOTAL	4,284	188,291	43.95	0	0	0	0	0	0	0	9,303	10,088	14,913	19,597	
Navy	VA	D00109	NWS YORKTOWN MB	35,852	1,583,051	44.16	0	0	0	0	0	0	0	78,213	84,815	125,379	164,762	
Navy	VA	N63393	NSC NORFOLK TOTAL	54,459	2,582,177	47.42	0	0	0	0	0	0	0	127,577	138,346	204,511	268,750	
Navy	VA	N42063	SATCOMDET NORTHWEST CHESAPEAKE TOT	3,067	149,178	48.64	0	0	0	0	0	0	0	7,370	7,993	11,815	15,526	
Navy	VA	N00182	ST JULIENS CREEK ANNEX PORTSMOUTH TOT	16,910	832,399	49.23	0	0	0	0	0	0	0	41,126	44,598	65,927	86,635	
Navy	VA	N68722	NAVAL MEDICAL CLINIC NORFOLK TOTAL	1,852	86,911	46.93	0	0	0	0	0	0	0	4,294	4,656	6,863	9,046	
Navy	VA	N00183	NH PORTSMOUTH TOTAL	35,117	1,562,775	44.50	0	0	0	0	0	0	0	77,212	83,729	123,774	162,652	
Navy	VA	N32528	NCB NORFOLK TOTAL	1,485	66,585	44.84	0	0	0	0	0	0	0	3,290	3,567	5,274	6,930	

DOD Electric Power Cost Savings  
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		FY 1996														Total Savings (1996\$)													
		MMWh	\$	\$/MMWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009												
Navy	VA N0552A	144	6,660	46.25	0	0	0	0	0	0	0	0	0	0	329	357	527	693											
Navy	VA N57023	1,128	46,753	41.45	0	0	0	0	0	0	0	0	0	0	2,310	2,505	3,703	4,866											
Navy	VA N67230	1,447	58,742	40.60	0	0	0	0	0	0	0	0	0	0	2,902	3,147	4,652	6,114											
Navy	VA N63401	444	18,070	40.70	0	0	0	0	0	0	0	0	0	0	893	968	1,431	1,881											
Navy	VA N57095	20,486	841,752	41.09	0	0	0	0	0	0	0	0	0	0	41,588	45,099	66,668	87,609											
Navy	VA N70272	6,714	275,971	41.10	0	0	0	0	0	0	0	0	0	0	13,635	14,786	21,857	28,723											
Navy	VA D63891	19,856	802,740	40.43	0	0	0	0	0	0	0	0	0	0	39,661	43,009	63,578	83,548											
Navy	VA N57074	18,791	776,058	41.30	0	0	0	0	0	0	0	0	0	0	38,342	41,579	61,465	80,771											
Navy	VA N64590	3,465	142,624	41.16	0	0	0	0	0	0	0	0	0	0	7,047	7,641	11,296	14,844											
Navy	VA N60951	1,777	72,473	40.78	0	0	0	0	0	0	0	0	0	0	3,581	3,883	5,740	7,543											
Navy	VA N61797	18,835	773,531	41.07	0	0	0	0	0	0	0	0	0	0	38,218	41,444	61,265	80,508											
Navy	VA N63102	2,868	117,740	41.05	0	0	0	0	0	0	0	0	0	0	5,817	6,308	9,325	12,254											
Navy	VA N00188	47,078	1,923,780	40.86	0	0	0	0	0	0	0	0	0	0	95,048	103,071	152,366	200,225											
Navy	VA N62688	66,426	2,728,298	41.07	0	0	0	0	0	0	0	0	0	0	134,796	146,174	216,084	283,958											
Navy	VA N61720	5,707	232,855	40.80	0	0	0	0	0	0	0	0	0	0	11,505	12,476	18,442	24,235											
Navy	VA N62753	2,651	108,926	41.09	0	0	0	0	0	0	0	0	0	0	5,382	5,836	8,627	11,337											
Navy	VA N68057	2,878	118,231	41.08	0	0	0	0	0	0	0	0	0	0	5,841	6,334	9,364	12,305											
Navy	VA N63367	3,885	160,944	41.43	0	0	0	0	0	0	0	0	0	0	7,952	8,623	12,747	16,751											
		1,348,023	58,491,825	43.39	0	0	0	0	0	0	0	0	0	0	2,889,887	3,133,825	4,632,618	6,087,756											
Navy	WV N91571	21,756	928,680	42.69	0	0	0	0	0	0	0	0	0	0	24,344	47,979	70,926	93,204											
Navy	WV D70310	4,920	192,000	39.02	0	0	0	0	0	0	0	0	0	0	5,033	9,919	14,664	19,269											
		26,676	1,120,680	42.01	0	0	0	0	0	0	0	0	0	0	29,377	57,898	85,589	112,473											
					0	0	0	0	0	0	0	0	0	0	2,889,887	3,133,825	4,632,618	6,087,756											
		3,387,864	153,561,770		0	0	0	0	0	0	0	0	0	0	5,998,934	6,599,350	11,665,399	15,458,498											
		TOTAL (NAVY)																											
USAF	AL FG4444	39,723	1,715,400	43.18	0	0	0	0	0	0	0	0	0	0	84,752	91,906	135,862	178,537											
USAF	AL FP3300	74,563	3,349,511	44.92	0	0	0	0	0	0	0	0	0	0	165,488	179,457	265,285	348,613											
		114,286	5,064,911	44.32	0	0	0	0	0	0	0	0	0	0	250,240	271,364	401,147	527,150											
USAF	AR FP460	50,063	2,506,377	50.06	0	0	0	0	0	0	0	0	0	0	66,918	184,103	247,179	308,419											
USAF	CO FP4500	44,509	3,441,565	77.32	0	0	0	0	0	0	0	0	0	0	24,896	114,583	134,177	151,234											
USAF	CO FB7000	76,510	3,033,897	39.65	0	0	0	0	0	0	0	0	0	0	21,947	101,010	118,283	133,319											
USAF	CO FY1623	64,710	2,308,825	35.68	0	0	0	0	0	0	0	0	0	0	16,702	76,870	90,014	101,457											
USAF	CO FB2510	35,421	1,199,929	33.88	0	0	0	0	0	0	0	0	0	0	8,680	39,950	46,782	52,729											

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		Total Savings (1996\$)														
		FY 1996														
	MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
	221,149	9,984,216	45.15	0	0	0	0	0	0	0	0	0	72,225	332,414	389,256	438,739
USAF DC	FP4200	BOLLING AFB		77,355	4,671,970	60.40	0	0	0	0	0	0	122,469	241,371	356,810	468,887
USAF DE	FP4497	DOVER AFB		53,261	2,854,129	53.59	0	0	0	0	0	0	119,932	148,479	85,703	199,243
USAF FL	FP4814	MACDILL AFB		79,189	4,304,413	54.36	0	0	0	0	0	0	120,972	11,873	276,933	387,640
USAF FL	EY815F	CAPE CANAVERAL		172,672	8,097,132	46.89	0	0	0	0	0	0	227,564	22,335	520,945	729,198
USAF FL	FP2823	EGLIN AFB		235,487	10,549,982	44.80	0	0	0	0	0	0	296,499	29,100	678,754	950,093
USAF FL	FP2829	PATRICK AFB		67,038	3,213,066	47.93	0	0	0	0	0	0	90,301	8,863	206,719	289,357
USAF FL	FP2586	TYNDALL AFB		79,567	3,612,803	45.41	0	0	0	0	0	0	101,535	9,965	232,437	325,356
USAF FL	FP4417	HURLBURT FLD		66,477	3,043,920	45.79	0	0	0	0	0	0	85,547	8,396	195,837	274,124
				700,430	32,821,316	46.86	0	0	0	0	0	0	922,418	90,532	2,111,625	2,955,768
USAF GA	FP2065	ROBINS AFB		228,030	9,841,697	43.16	0	0	0	0	0	0	486,246	527,290	779,473	1,024,312
USAF GA	FP4830	MOODY AFB		37,002	1,666,738	45.04	0	0	0	0	0	0	82,348	89,299	132,008	173,472
USAF GA	FP6703	DOBBINS ARB		16,097	863,475	53.64	0	0	0	0	0	0	42,661	46,263	68,388	89,869
				281,129	12,371,910	44.01	0	0	0	0	0	0	611,255	662,852	979,869	1,287,653
USAF ID	FP4897	MT HOME AFB		47,051	1,382,622	29.39	0	0	0	0	0	0	49,935	98,417	145,485	135,879
USAF KS	FP4621	MCCONNELL AFB		41,488	2,445,361	58.94	0	0	0	0	0	0	65,289	179,621	241,162	300,910
USAF LA	FP4608	BARKSDALE AFB		76,066	2,935,828	38.60	0	0	0	0	0	0	78,384	215,648	289,532	361,264
USAF MN	FP6633	MPLS-ST PAUL IAP		4,754	246,408	51.83	0	0	0	0	0	0	6,493	12,798	18,918	24,861
USAF MO	FP4625	WHITEMAN AFB		65,803	3,149,880	47.87	0	0	0	0	0	0	19,708	176,798	261,354	273,449
USAF MS	FB3010	KEESLER AFB		133,883	5,602,170	41.84	0	0	0	0	0	0	276,785	300,148	443,698	583,067
USAF MS	FP3022	COLUMBUS AFB		24,511	1,295,885	52.87	0	0	0	0	0	0	64,025	69,430	102,636	134,874
				158,394	6,898,055	43.55	0	0	0	0	0	0	340,810	369,578	546,334	717,941
USAF NC	FP4488	POPE AFB		37,853	2,428,367	64.15	0	0	0	0	0	0	119,978	130,105	192,329	252,741
USAF NC	FP4809	SEYMOUR JOHNSON		61,328	2,879,571	46.95	0	0	0	0	0	0	142,270	154,279	228,065	299,702
				99,181	5,307,938	53.52	0	0	0	0	0	0	262,248	284,384	420,395	552,444

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				Total Savings (1996\$)														FY 1996		
				MMWh	\$	MMWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
USAF	ND	FB4659	GRAND FORKS AFB	134,457	5,003,039	37.21	0	0	0	0	0	0	0	0	0	131,842	259,843	384,116	504,770	
				10,087	1,662,268	164.80	0	0	0	0	0	0	0	0	0	0	43,805	86,333	127,623	167,711
				144,544	6,665,307	46.11	0	0	0	0	0	0	0	0	0	0	175,646	346,176	511,740	672,481
USAF	NM	FP4855	CANNON AFB	51,595	2,063,481	39.99	0	0	0	0	0	0	0	0	0	14,927	68,701	80,449	90,676	
				86,197	5,612,072	65.11	0	0	0	0	0	0	0	0	0	40,598	186,848	218,798	246,613	
				62,364	3,867,729	62.02	0	0	0	0	0	0	0	0	0	27,979	128,772	150,792	169,961	
				200,156	11,543,282	57.67	0	0	0	0	0	0	0	0	0	83,504	384,322	450,039	507,250	
USAF	OH	FP2006	NEWARK AFB	46,138	1,743,292	37.78	0	0	0	0	0	0	0	0	0	45,698	90,065	133,140	174,960	
				4,896	363,919	74.33	0	0	0	0	0	0	0	0	9,540	18,801	27,793	36,524		
				384,574	15,756,481	40.97	0	0	0	0	0	0	0	0	0	413,034	814,038	1,203,362	1,581,347	
				435,609	17,863,692	41.01	0	0	0	0	0	0	0	0	0	468,272	922,904	1,364,295	1,792,830	
USAF	OK	FP3029	VANCE AFB	0	0	NA	0	0	0	0	0	0	0	0	0	0	0	0	0	
				45,369	1,752,828	38.63	0	0	0	0	0	0	0	0	46,799	128,752	172,864	215,692		
				346,508	11,268,164	32.52	0	0	0	0	0	0	0	0	300,849	827,689	1,111,268	1,386,587		
				391,877	13,020,992	33.23	0	0	0	0	0	0	0	0	0	347,648	956,441	1,284,132	1,602,279	
USAF	SC	FP4418	CHARLESTON AFB	53,568	2,064,859	38.55	0	0	0	0	0	0	0	0	0	102,018	110,629	163,539	214,908	
				58,438	3,000,337	51.34	0	0	0	0	0	0	0	0	148,237	160,750	237,630	312,271		
				112,006	5,065,196	45.22	0	0	0	0	0	0	0	0	250,255	271,379	401,169	527,179		
				53,613	1,592,708	29.71	0	0	0	0	0	0	0	0	0	41,972	82,721	122,283	160,693	
USAF	TN	EY7483	ARNOLD AFB	601,417	18,448,149	30.67	0	0	0	0	0	0	0	0	0	911,462	988,399	1,461,114	1,920,060	
				71,596	2,409,367	33.65	0	0	0	0	0	0	0	0	63,158	124,477	184,009	241,808		
				10,468	465,584	44.48	0	0	0	0	0	0	0	0	12,205	24,054	35,558	46,727		
USAF	TX	FP4661	DYESS AFB	58,366	2,225,189	38.12	0	0	0	0	0	0	0	0	58,330	114,961	169,943	223,324		
				59,256	2,171,118	36.64	0	0	0	0	0	0	0	56,913	112,168	165,814	217,897			
				39,436	1,449,848	36.76	0	0	0	0	0	0	0	38,006	74,904	110,729	145,509			
				34,507	1,855,056	53.76	0	0	0	0	0	0	0	0	48,628	95,839	141,675	186,176		
USAF	TX	FY4006	ELDORADO AFS	3,513	234,130	66.65	0	0	0	0	0	0	0	0	0	6,137	12,096	17,881	23,498	
				88,299	4,463,052	50.54	0	0	0	0	0	0	0	116,993	230,578	340,854	447,919			
				118,079	5,301,877	44.90	0	0	0	0	0	0	0	138,981	273,914	404,918	532,105			
				483,519	20,575,221	42.55	0	0	0	0	0	0	0	0	539,350	1,062,992	1,571,381	2,064,963		

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		Total Savings (1996\$)														
		FY 1996														
		\$														
		MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
			\$/MWh													
USAF	UT	FP2027	HILL AFB	208,200	7,585,478	36.43	0	0	0	0	0	0	273,961	539,942	798,177	745,471
USAF	VA	FP4800	LANGLEY AFB	91,279	3,896,639	42.69	0	0	0	0	0	0	192,520	208,771	308,618	405,557
USAF	WI	FP6605	GEN MITCHELL FLD	4,983	210,664	42.27	0	0	0	0	0	0	1,318	11,824	17,479	18,288
USAF	WY	FP4613	F E WARREN AFB	51,369	2,854,735	55.57	0	0	0	0	0	0	20,651	95,045	111,298	125,447
TOTAL (AIR FORCE)		4,768,983	201,962,984	0	0	0	0	0	0	0	0	0	6,294,883	9,139,273	14,896,494	19,095,104
USMC	GA	K67004	MCLB ALBANY MB	64,452	2,815,126	43.68	0	0	0	0	0	0	139,086	150,826	222,961	292,995
USMC	LA	M67021	MAW 4 NEW ORLEANS TOTAL	480	37,200	77.50	0	0	0	0	0	0	993	2,732	3,669	4,578
USMC	LA	M68479	FOURTH MARDIV NEW ORLEANS TOTAL	3,375	254,430	75.39	0	0	0	0	0	0	6,793	18,689	25,092	31,309
				3,855	291,630	75.65	0	0	0	0	0	0	7,786	21,421	28,761	35,886
USMC	NC	K67001	MCB CAMP LEJEUNE MB	241,273	11,933,006	49.46	0	0	0	0	0	0	599,570	639,336	945,107	1,241,972
USMC	NC	K00146	MCAS CHERRY POINT MB	97,598	3,505,671	35.92	0	0	0	0	0	0	173,204	187,824	277,653	364,866
				338,871	15,438,677	45.56	0	0	0	0	0	0	762,774	827,160	1,222,760	1,606,838
USMC	SC	K00263	MCRD PARRIS ISLAND MB	50,649	2,032,458	40.13	0	0	0	0	0	0	100,417	108,893	160,973	211,536
USMC	SC	K60169	MCAS BEAUFORT MB	36,249	1,630,536	44.98	0	0	0	0	0	0	80,559	87,359	129,140	169,704
				86,898	3,662,994	42.15	0	0	0	0	0	0	180,976	196,253	290,113	381,240
USMC	VA	M67353	HQBN ARLINGTON TOTAL	8,438	371,044	43.97	0	0	0	0	0	0	18,332	19,879	29,387	38,618
USMC	VA	K00264	MCB QUANTICO MB	82,761	4,283,313	51.76	0	0	0	0	0	0	211,624	229,488	339,243	445,802
USMC	VA	M67391	MCB CAMP ELMORE NORFOLK TOTAL	3,734	153,562	41.13	0	0	0	0	0	0	7,587	8,227	12,162	15,983
				94,933	4,807,919	50.65	0	0	0	0	0	0	237,543	257,595	380,793	500,402
TOTAL (MARINE CORPS)		589,009	27,016,346	0	0	0	0	0	0	0	0	0	1,328,166	1,453,255	2,145,388	2,817,361
TOTAL (ALL SERVICES)		13,619,940	617,417,083	0	0	0	0	0	0	0	0	0	21,991,364	29,849,611	47,064,214	60,939,932

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				2010	2011	Total	NPV
Army	AL	NA	ANNISTON AD	365,671	-1,160	1,180,833	724,262
Army	AL	NA	REDSTONE Afs	2,749,773	-6,926	8,881,420	5,447,301
Army	AL	NA	FT RUCKER	679,878	-2,243	2,195,389	1,346,544
				3,795,323	-10,330	12,257,643	7,518,107
Army	AR	NA	PINE BLUFF Afs	211,796	11,075	687,265	418,862
Army	CO	NA	FT CARSON	300,097	87,864	934,479	564,081
Army	CO	NA	PUEBLO AD	5,781	664	16,973	10,295
				305,878	88,528	951,452	574,376
Army	DC	NA	WALTER REED AMC	831,637	13,368	2,887,841	1,765,353
Army	GA	NA	FT BENNING	1,350,110	-3,832	4,360,253	2,674,328
Army	GA	NA	FT STEWART	963,369	-2,687	3,111,301	1,908,290
Army	GA	NA	FT MCPHERSON	370,031	-971	1,195,113	733,009
Army	GA	NA	FT GORDON	828,432	-2,179	2,675,637	1,641,072
Army	GA	NA	HUNTER AAF	315,017	-863	1,017,395	624,010
				3,826,959	-10,531	12,359,701	7,580,710
Army	KS	NA	FT LEAVENWORTH	596,119	41,819	1,945,016	1,184,836
Army	KS	NA	FT RILEY	983,380	68,468	3,208,054	1,954,262
				1,579,499	110,288	5,153,070	3,139,098
Army	KY	NA	FT KNOX	743,826	22,583	2,593,545	1,584,853
Army	KY	NA	BLUE GRASS AD	28,985	823	101,006	61,725
Army	KY	NA	FT CAMPBELL	1,252,346	25,783	4,354,396	2,661,550
				2,025,156	49,189	7,048,947	4,308,128
Army	LA	NA	FT POLK	1,525,926	88,037	4,959,782	3,022,350
Army	MO	NA	AVIATION/TRP CMD	10,630	561	33,204	20,165
Army	MO	NA	LAKE CITY AAP	261,704	13,506	817,148	496,270
Army	MO	NA	FT LEONARD WOOD	496,133	22,594	1,546,123	939,146
				768,467	36,661	2,396,476	1,455,681
Army	MS	NA	MISSISSIPPI AAP	56,439	-161	182,273	111,796

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					2010	2011	Total	NPV
Army	NC	NA	FT BRAGG		3,160,851	-7,724	10,209,388	6,261,778
					28,323	-53	91,498	56,118
				SUNNY POINT MOT	3,189,174	-7,777	10,300,886	6,317,896
Army	ND	NA	S.R. MICKELSON		2,035	-144	6,081	3,716
				WHITE SANDS MR	477,053	98,733	1,444,563	873,964
Army	OH	NA	COLUMBUS DCSC		389,732	6,312	1,353,383	827,328
Army	OK	NA	FT SILL		99,155	11,116	327,683	199,389
					65,627	6,073	215,597	131,255
				MCALESTER AAP	164,782	17,189	543,280	330,644
Army	OR	NA	UMATILLA DA		12,893	-3,886	39,744	24,610
Army	SC	NA	FT JACKSON		554,791	-2,015	1,791,286	1,098,697
Army	TN	NA	VOLUNTEER AAP		29,279	-78	94,564	58,000
Army	TX	NA	FT SAM HOUSTON		624,779	53,898	2,213,385	1,350,597
					305,032	25,425	1,079,740	658,901
				CORPUS CHRISTI AD	2,117,976	231,638	7,552,217	4,605,639
Army	TX	NA	FT HOOD		217,063	26,805	777,062	473,715
					45,680	5,400	163,290	99,558
				RED RIVER AD	1,156,745	74,445	4,072,624	2,486,487
Army	TX	NA	LONE STAR AAP		4,467,275	417,611	15,858,318	9,674,899
				FT BLISS				
Army	UT	NA	DUGWAY ARMY PG		160,420	-52,110	490,761	304,130
					276,412	-92,933	842,461	522,285
				TOOELE AD	436,832	-145,043	1,333,223	826,415
Army	VA	NA	FT LEE		436,856	-1,618	1,410,474	865,125
					548,852	-1,996	1,772,108	1,086,935
				FT EUSTIS	97,779	-200	315,860	193,726
Army	VA	NA	FT A P HILL		213,256	-867	688,460	422,277
				FT MYER				



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			2010	2011	Total	NPV	
Army	VA	NA	FT MONROE	163,188	-241	527,246	323,370
Army	VA	NA	RICHMOND DCSC	308,269	-803	995,644	610,667
Army	VA	NA	FT BELVOIR	1,124,500	-3,488	3,631,336	2,227,270
			2,892,700	-9,213	9,341,129	5,729,369	
Army	WI	NA	FT MCCOY	122,438	8,674	384,659	233,488
			TOTAL (ARMY)				
			27,666,063	756,489	91,375,566	55,893,387	
Navy	AL	N66085	NSPASURSTA WETUMPKA TOTAL	6,830	-17	22,061	13,531
Navy	AR	N66083	NSPASURSTA LEWISVILLE TOTAL	2,114	102	6,853	4,177
Navy	DC	N68306	NRRC WASHINGTON TOTAL	20,047	266	69,556	42,523
Navy	DC	N62285	NAVOBSERV TOTAL	39,427	520	136,795	83,630
Navy	DC	D00173	NRL WASHINGTON MB	1,066,479	30,606	3,716,790	2,271,340
Navy	DC	N00171	ND WASHINGTON DC TOTAL	563,447	8,692	1,956,192	1,195,852
			1,689,400	40,084	5,879,333	3,593,345	
Navy	FL	N63082	NTTC PENSACOLA TOTAL	156,031	13,066	420,392	253,419
Navy	FL	N0463A	NAVXDIVINGV PANAMA CITY TOTAL	15,800	1,336	42,583	25,669
Navy	FL	B61331	NAVCOASTSYS SCEN PANAMA CITY TOTAL	905	94	2,455	1,479
Navy	FL	N00203	NARMC PENSACOLA TOTAL	79,605	6,749	214,562	129,338
Navy	FL	D00207	NAS JACKSONVILLE MB	418,112	31,309	1,122,810	677,024
Navy	FL	N65492	NRMC ORLANDO TOTAL	3,113	228	8,354	5,037
Navy	FL	N61339	NTEC ORLANDO TOTAL	39,725	2,781	106,484	64,216
Navy	FL	B60201	NS MAYPORT TOTAL	836,177	62,659	2,245,538	1,353,997
Navy	FL	N62670	SUPSHIP JACKSONVILLE TOTAL	5,925	464	15,932	9,605
Navy	FL	N63099	NARU JACKSONVILLE TOTAL	19,429	1,519	52,239	31,496
Navy	FL	N0610A	NAVDIVESALVTRACEN PANAMA CITY TOTAL	20,330	1,537	54,609	32,927
Navy	FL	N32779	SIMA NAS MAYPORT TOTAL	7,968	530	21,306	12,850
Navy	FL	N39142	NRTF SADDLEBUNCH KEYS TOTAL	12,329	526	32,710	19,742
Navy	FL	N00267	NRMC KEY WEST TOTAL	13,775	524	36,484	22,023
Navy	FL	N63425	NCU KEY WEST TOTAL	6,836	260	18,107	10,930
Navy	FL	D00213	NAS KEY WEST MB	390,091	17,507	1,035,860	625,154
Navy	FL	N32575	NCB MAYPORT TOTAL	2,332	155	6,242	3,765

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			2010	2011	Total	NPV
Navy	FL	N62701	NSWC FORT LAUDERDALE TOTAL	462	19,921	12,016
Navy	FL	N68358	NRRC JACKSONVILLE TOTAL	1,873	92,268	55,669
Navy	FL	N68836	NSC JACKSONVILLE TOTAL	1,326	45,549	27,462
Navy	FL	N66452	NAVAEROMEDRSCHLAB PENSACOLA TOTAL	1,056	34,623	20,872
Navy	FL	N65889	NARF PENSACOLA TOTAL	8,405	275,932	186,344
Navy	FL	N68860	NSC PENSACOLA TOTAL	221	7,483	4,511
Navy	FL	N68142	NAS PENSACOLA TOTAL	46,893	1,532,446	923,819
Navy	FL	B00204	PWC PENSACOLA MB+SHIP	5,775	187,536	113,053
Navy	FL	N68441	NRDC PENSACOLA TOTAL	383	12,467	7,515
Navy	FL	N0751A	NAMI NAS PENSACOLA TOTAL	1,254	40,887	24,648
Navy	FL	D61331	NCSC PANAMA CITY MB	10,337	352,230	212,360
Navy	FL	N00232	NRMC JACKSONVILLE TOTAL	8,191	281,119	169,490
Navy	FL	N68560	NARDAC JACKSONVILLE TOTAL	5,190	178,157	107,413
Navy	FL	N10151	FTC MAYPORT TOTAL	790	27,127	16,355
Navy	FL	N65886	NARF JACKSONVILLE TOTAL	25,019	858,667	517,700
Navy	FL	N68734	NAVCOMSTA JACKSONVILLE TOTAL	640	21,976	13,189
Navy	FL	D60508	NAS WHITING FIELD MB	11,069	378,351	228,110
Navy	FL	N68322	NETPDC ELLYSON FIELD PENSACOLA TOTAL	6,722	230,108	138,734
			3,729,701	276,849	10,013,414	6,037,935
Navy	GA	N44466	TRIREFAC KINGS BAY TOTAL	-576	448,278	274,958
Navy	GA	D62741	NSCS ATHENS MB	-82	124,428	76,315
Navy	GA	N66087	NSPASURSTA SAVANNAH TOTAL	-3	5,345	3,278
Navy	GA	D00196	NAS ATLANTA MB	-155	208,322	127,771
Navy	GA	B42237	NAVSUBASE KINGS BAY MB+SHIP	-1,341	1,044,054	640,387
Navy	GA	N66086	NSPASURSTA HAWKINSVILLE TOTAL	-4	5,971	3,662
Navy	GA	N68733	SWFATLANT KINGSBURY TOTAL	-1,003	780,414	478,679
Navy	GA	N68701	TRITRAFAC KINGS BAY TOTAL	-413	321,479	197,184
			910,120	-3,577	2,938,289	1,802,235
Navy	ID	N62182	NSRDC BAYVIEW TOTAL	-5,770	74,526	46,118
Navy	KS	N30924	NARC OLATHE TOTAL	106	12,091	7,374
Navy	LA	N68307	NRRC NEW ORLEANS TOTAL	1,571	100,142	61,035
Navy	LA	D00205	NSA NEW ORLEANS MB	18,315	1,121,581	683,547
Navy	LA	D00206	NAS NEW ORLEANS MB	11,524	709,345	432,313

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		2010	2011	Total	NPV
		<b>595,010</b>	<b>31,410</b>	<b>1,931,068</b>	<b>1,176,896</b>
Navy	MN N68349				
		33,715	-2,381	100,757	61,567
Navy	MN N30315				
		6,702	-335	20,167	12,315
Navy	MN N91192				
		175,938	-17,530	520,682	318,449
		<b>216,356</b>	<b>-20,247</b>	<b>641,506</b>	<b>392,331</b>
Navy	MS D62604				
		147,189	-437	475,334	291,544
Navy	MS D63043				
		215,935	-532	697,455	427,774
Navy	MS N66084				
		1,681	-3	5,431	3,331
Navy	MS N62795				
		26,158	-57	84,494	51,823
		<b>390,962</b>	<b>-1,029</b>	<b>1,262,715</b>	<b>774,472</b>
Navy	NC N68093				
		120,382	-250	388,873	238,507
Navy	NC N65923				
		743,991	-1,460	2,403,411	1,474,076
		<b>864,373</b>	<b>-1,710</b>	<b>2,792,284</b>	<b>1,712,583</b>
Navy	NM N61762				
		20,478	3,079	60,849	36,872
Navy	NM N66081				
		1,249	156	3,679	2,231
		<b>21,726</b>	<b>3,235</b>	<b>64,528</b>	<b>39,102</b>
Navy	OH N68640				
		<b>87,014</b>	<b>1,047</b>	<b>301,801</b>	<b>184,512</b>
Navy	SC B00193				
		325,670	-982	1,051,711	645,062
Navy	SC N63028				
		82,761	-257	267,258	163,922
Navy	SC N68084				
		95,955	-251	309,914	190,082
Navy	SC N68356				
		21,576	-48	69,695	42,746
Navy	SC D61337				
		57,292	-168	185,022	113,482
Navy	SC N45610				
		29,359	-83	94,817	58,155
		<b>612,613</b>	<b>-1,789</b>	<b>1,978,417</b>	<b>1,213,450</b>
Navy	TN N68348				
		33,343	-55	107,724	66,069
Navy	TN N63101				
		4,069	-12	13,141	8,060
Navy	TN N60002				
		57,261	-166	184,923	113,421
Navy	TN N94307				
		185,428	-533	598,843	367,296
		<b>280,101</b>	<b>-765</b>	<b>904,631</b>	<b>554,847</b>

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			2010	2011	Total	NPV	
Navy	TX	N66082	NSPASURSTA ARCHER CITY TOTAL	74,777	7,984	266,445	162,499
Navy	TX	N91961	NWIRP DALLAS TOTAL	817,197	88,731	2,913,294	1,776,676
Navy	TX	N95918	NIRP MCGREGOR TOTAL	141,942	15,952	506,561	308,897
Navy	TX	D00216	NAS CORPUS CHRISTI MB	191,787	18,834	681,728	415,861
Navy	TX	N68359	NRRC DALLAS TOTAL	32,328	2,048	113,787	69,473
Navy	TX	D60241	NAS KINGSVILLE MB	120,745	9,866	427,210	260,712
Navy	TX	N00285	NRMC CORPUS CHRISTI TOTAL	53,015	5,106	188,348	114,900
			1,431,792	148,521	5,097,372	3,109,019	
Navy	UT	N63319	NSSPO MAGNA TOTAL	43,248	-17,240	129,115	80,219
Navy	VA	B00181	NSY PORTSMOUTH MB+SHIP	367,016	-860	1,185,479	727,094
Navy	VA	N68593	NAVOCEANPROFAC DAM NECK TOTAL	33,189	-101	107,181	65,739
Navy	VA	N55631	NISMF PORTSMOUTH TOTAL	3,227	-8	10,423	6,393
Navy	VA	N64619	GMSCOL VIRGINIA BEACH TOTAL	230,817	-612	745,480	457,232
Navy	VA	N45004	MARENVIIRON SYS FAC DAM NECK TOTAL	36,250	-110	117,064	71,801
Navy	VA	N30018	NSRDC PORTSMOUTH TOTAL	1,527	-4	4,933	3,026
Navy	VA	N63061	NEOC NORFOLK TOTAL	5,050	-16	16,307	10,002
Navy	VA	B00187	PWC NORFOLK MB+SHIP	2,585,415	-8,235	8,348,843	5,120,751
Navy	VA	N65887	NARF NORFOLK TOTAL	186,607	-595	602,591	369,598
Navy	VA	N62470	LANTFLT NORFOLK TOTAL	25,758	-81	83,180	51,018
Navy	VA	N63273	COMBTDIRSYS VIRGINIA BEACH TOTAL	46,295	-142	149,502	91,696
Navy	VA	B61414	NPB LITTLE CREEK TOTAL	269,650	-830	870,786	534,093
Navy	VA	N61414	NAB LITTLE CREEK TOTAL	416,939	-1,286	1,346,425	825,826
Navy	VA	D60191	NAS OCEANA VIRGINIA BEACH MB	411,108	-1,232	1,327,631	814,296
Navy	VA	D00178	NSWC DAHLGREN MB	447,780	-1,339	1,446,063	886,936
Navy	VA	N68724	AEGISTRACEN DAHLGREN TOTAL	80,902	-242	261,267	160,247
Navy	VA	D00281	FCTC VIRGINIA BEACH MB	260,352	-782	840,777	515,687
Navy	VA	N53989	TACTGRULANT DAM NECK TOTAL	7,897	-24	25,503	15,642
Navy	VA	N0387A	NMITC DAM NECK VIRGINIA BEACH TOTAL	24,145	-73	77,973	47,824
Navy	VA	D00109	NWS YORKTOWN MB	202,997	-609	655,558	402,083
Navy	VA	N63393	NSC NORFOLK TOTAL	331,117	-926	1,069,375	655,892
Navy	VA	N42063	SATCOMDET NORTHWEST CHESAPEAKE TOT	19,129	-52	61,781	37,893
Navy	VA	N00182	ST JULIENS CREEK ANNEX PORTSMOUTH TOT	106,740	-287	344,738	211,442
Navy	VA	N68722	NAVAL MEDICAL CLINIC NORFOLK TOTAL	11,145	-31	35,993	22,076
Navy	VA	N00183	NH PORTSMOUTH TOTAL	200,397	-597	647,166	396,936
Navy	VA	N32528	NCB NORFOLK TOTAL	8,538	-25	27,574	16,912

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			2010	2011	Total	NPV
Navy	VA	N0552A	854	-2	2,758	1,892
Navy	VA	N57023	5,995	-19	19,360	11,874
Navy	VA	N67230	7,533	-25	24,324	14,919
Navy	VA	N63401	2,317	-8	7,482	4,589
Navy	VA	N57095	107,939	-348	348,554	213,785
Navy	VA	N70272	35,388	-114	114,275	70,090
Navy	VA	D63891	102,937	-338	332,395	203,874
Navy	VA	N57074	99,515	-319	321,353	197,102
Navy	VA	N64590	18,289	-59	59,058	36,223
Navy	VA	N60951	9,293	-30	30,010	18,406
Navy	VA	N61797	99,191	-320	320,305	196,459
Navy	VA	N63102	15,098	-49	48,754	29,903
Navy	VA	N00188	246,690	-800	796,598	488,593
Navy	VA	N62888	349,855	-1,129	1,129,738	692,924
Navy	VA	N61720	29,859	-97	96,420	59,139
Navy	VA	N62753	13,968	-45	45,104	27,665
Navy	VA	N68057	15,161	-49	48,957	30,028
Navy	VA	N63367	20,638	-66	66,645	40,876
			<b>7,500,512</b>	<b>-22,916</b>	<b>24,221,683</b>	<b>14,856,280</b>
Navy	WV	N91571	96,260	2,219	334,931	204,708
Navy	WV	D70310	19,901	502	69,288	42,346
			<b>116,161</b>	<b>2,721</b>	<b>404,220</b>	<b>247,054</b>
			<b>18,525,812</b>	<b>428,014</b>	<b>58,676,007</b>	<b>35,845,480</b>
USAF	AL	FG4444	219,969	-675	710,350	435,691
USAF	AL	FP3300	429,514	-1,268	1,387,090	850,764
			<b>649,483</b>	<b>-1,943</b>	<b>2,097,440</b>	<b>1,286,455</b>
USAF	AR	FP4460	<b>367,874</b>	<b>22,829</b>	<b>1,197,321</b>	<b>729,527</b>
USAF	CO	FP4500	233,310	38,099	696,299	421,770
USAF	CO	FB7000	205,674	65,492	645,726	389,525
USAF	CO	FY1623	156,520	55,391	466,955	299,515
USAF	CO	FB2510	81,345	30,321	259,807	156,513

DOD Electric Power Cost Savings  
Group of 31 - Main Base Only

		2010	2011	Total	NPV
		676,849	189,304	2,098,787	1,267,323
USAF DC	FP4200 BOLLING AFB	484,259	7,890	1,681,687	1,028,018
USAF DE	FP4497 DOVER AFB	310,774	29,720	893,851	546,628
USAF FL	FP4814 MACDILL AFB	495,122	33,893	1,326,433	799,955
USAF FL	EY815F CAPE CANAVERAL	931,386	73,904	2,505,331	1,510,449
USAF FL	FP2823 EGLIN AFB	1,213,529	100,788	3,268,764	1,970,503
USAF FL	FP2829 PATRICK AFB	369,588	28,692	983,520	599,017
USAF FL	FP2586 TYNDALL AFB	415,568	34,055	1,118,916	674,536
USAF FL	FP4417 HURLBURT FLD	350,132	28,452	942,488	568,188
		3,775,325	299,784	10,155,452	6,122,648
USAF GA	FP2065 ROBINS AFB	1,262,019	-3,877	4,075,463	2,499,671
USAF GA	FP4830 MOODY AFB	213,729	-629	690,226	423,346
USAF GA	FP6703 DOBBINS ARB	110,725	-274	357,633	219,349
		1,586,472	-4,779	5,123,322	3,142,367
USAF ID	FP4897 MT HOME AFB	180,246	-78,669	531,293	330,544
USAF KS	FP4621 MCCONNELL AFB	358,919	18,918	1,164,819	709,904
USAF LA	FP4608 BARKSDALE AFB	430,907	34,686	1,410,420	858,938
USAF MN	FP6633 MPLS-ST PAUL IAP	30,630	-2,662	91,038	55,657
USAF MO	FP4625 WHITEMAN AFB	353,151	20,662	1,105,123	671,035
USAF MS	FB3010 KEESLER AFB	718,376	-2,276	2,319,798	1,422,844
USAF MS	FP3022 COLUMBUS AFB	166,174	-417	536,722	329,191
		884,550	-2,693	2,856,520	1,752,036
USAF NC	FP4488 POPE AFB	311,394	-643	1,005,904	616,949
USAF NC	FP4809 SEYMOUR JOHNSON	369,253	-1,043	1,192,527	731,427
		680,646	-1,686	2,198,430	1,348,376

**DOD Electric Power Cost Savings**  
**Group of 31 - Main Base Only**

					2010	2011	Total	NPV
USAF	ND	FB4659	GRAND FORKS AFB		621,909	-75,296	1,827,184	1,118,254
USAF	ND	FP4528	MINOT AFB		206,630	-5,649	626,454	382,297
					828,540	-80,945	2,453,638	1,500,551
USAF	NM	FP4855	CANNON AFB		139,887	44,166	438,807	264,723
USAF	NM	FP4469	KIRTLAND AFB		380,453	73,785	1,147,095	694,242
USAF	NM	FP4801	HOLLOMAN AFB		262,201	53,384	793,088	479,864
					782,541	171,334	2,378,989	1,438,828
USAF	OH	FP2006	NEWARK AFB		180,696	4,706	629,264	384,572
USAF	OH	FP6656	YOUNGSTOWN MAP		37,721	499	130,878	80,013
USAF	OH	FP2300	WRIGHT PATTERSON		1,633,192	39,227	5,684,199	3,474,055
					1,851,609	44,432	6,444,341	3,938,640
USAF	OK	FP3029	VANCE AFB		0	0	0	0
USAF	OK	FP4419	ALTUS AFB		257,272	20,688	842,067	512,815
USAF	OK	FP2039	TINKER AFB		1,653,888	158,008	5,438,289	3,310,552
					1,911,160	178,696	6,280,356	3,823,367
USAF	SC	FP4418	CHARLESTON AFB		264,781	-911	854,964	524,395
USAF	SC	FP4803	SHAW AFB		384,739	-993	1,242,633	762,154
					649,519	-1,904	2,097,597	1,286,549
USAF	SD	FP4690	ELLSWORTH AFB		197,984	-30,023	575,628	352,633
USAF	TN	EY7483	ARNOLD AFB		2,365,639	-10,224	7,636,451	4,683,963
USAF	TX	FP3089	RANDOLPH AFB		249,736	33,579	896,767	546,542
USAF	TX	FP3090	WILFORD HALL		48,259	4,909	171,711	104,736
USAF	TX	FP4661	DYESS AFB		230,645	27,373	824,578	502,743
USAF	TX	FG2857	BROOKS AFB		225,041	27,791	805,624	491,127
USAF	TX	FP3030	GOODFELLOW AFB		150,280	18,495	537,923	327,934
USAF	TX	FP3099	LAUGHLIN AFB		192,280	16,184	680,783	415,432
USAF	TX	FY4006	ELDORADO AFS		24,268	1,648	85,528	52,213
USAF	TX	FP3020	SHEPPARD AFB		462,605	41,412	1,640,361	1,000,858
USAF	TX	FB3047	LACKLAND AFB		549,551	55,379	1,954,848	1,192,401
					2,132,665	226,771	7,598,122	4,633,987

DOD Electric Power Cost Savings  
Group of 31 - Main Base Only

		2010	2011	Total	NPV
USAF	UT FP2027 HILL AFB	988,882	-348,111	2,998,322	1,859,825
USAF	VA FP4800 LANGLEY AFB	499,673	-1,552	1,613,588	989,689
USAF	WI FP6805 GEN MITCHELL FLD	23,619	1,565	74,033	44,980
USAF	WY FP4613 F E WARREN AFB	193,528	43,972	589,940	356,720
TOTAL (AIR FORCE)		23,195,444	725,371	73,346,569	44,759,189
USMC	GA K67004 MCLB ALBANY MB	360,989	-1,096	1,165,761	715,015
USMC	LA M67021 MAW 4 NEW ORLEANS TOTAL	5,460	219	17,651	10,761
USMC	LA M68479 FOURTH MARDIV NEW ORLEANS TOTAL	37,344	1,539	120,765	73,624
		42,804	1,758	138,416	84,385
USMC	NC K67001 MCB CAMP LEJEUNE MB	1,530,191	-4,102	4,942,076	3,031,171
USMC	NC K00146 MCAS CHERRY POINT MB	449,539	-1,659	1,451,426	890,243
		1,979,729	-5,761	6,393,502	3,921,414
USMC	SC K00263 MCRD PARRIS ISLAND MB	260,626	-861	841,584	516,186
USMC	SC K60169 MCAS BEAUFORT MB	209,087	-616	675,234	414,151
		469,712	-1,477	1,516,817	930,337
USMC	VA M67353 HQBN ARLINGTON TOTAL	47,580	-143	153,653	94,242
USMC	VA K00264 MCB QUANTICO MB	549,257	-1,407	1,774,007	1,088,065
USMC	VA M67391 MCB CAMP ELMORE NORFOLK TOTAL	19,692	-63	63,587	39,001
		616,528	-1,614	1,991,247	1,221,308
TOTAL (MARINE CORPS)		3,469,763	-8,190	11,205,743	6,872,459
TOTAL (ALL SERVICES)		72,857,081	1,901,684	234,603,885	143,370,515



**APPENDIX C-4.1**

**ESTIMATED COST  
SAVINGS -- MILITARY  
FAMILY HOUSING  
31-STATE SUBGROUP  
(SORTED BY SERVICE)**

**Group of 31 - Military Family Housing Only**

					FY 1996	Total Savings										Total Savings			Total Savings		
						1996		Total Savings								Total Savings			Total Savings		
						MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Navy	DC	D00173	NRL WASHINGTON MFH	708	47,544	67.15	0	0	0	0	0	0	0	0	0	1,262	2,487	3,677	4,230	5,352	72
Navy	FL	B00204	PWC PENSACOLA MFH	11,873	562,969	47.42	0	0	0	0	0	0	0	0	0	15,714	15,332	45,782	60,163	66,305	5,082
Navy	FL	D00207	NAS JACKSONVILLE MFH	7,328	348,069	47.50	0	0	0	0	0	0	0	0	0	9,716	9,479	28,306	37,197	40,995	3,136
Navy	FL	D60508	NAS WHITING FIELD MFH	5,104	355,757	69.70	0	0	0	0	0	0	0	0	0	9,930	9,689	28,931	38,019	41,900	2,185
Navy	FL	D00213	NAS KEY WEST MFH	20,819	1,816,859	87.27	0	0	0	0	0	0	0	0	0	50,713	49,481	147,752	194,162	213,985	8,911
Navy	FL	B60201	NS MAYPORT MFH	26,756	1,309,925	48.96	0	0	0	0	0	0	0	0	0	36,563	35,675	106,526	139,987	154,280	11,452
Navy	FL	D61331	NCSC PANAMA CITY MFH	1,813	95,589	52.72	0	0	0	0	0	0	0	0	0	2,668	2,603	7,774	10,215	11,258	776
				73,693	4,489,168	60.92	0	0	0	0	0	0	0	0	0	125,304	122,260	365,071	479,742	528,724	31,541
Navy	GA	D00196	NAS ATLANTA MFH	139	9,124	65.64	0	0	0	0	0	0	0	0	0	551	801	896	1,279	1,360	-2
Navy	GA	D62741	NSCS ATHENS MFH	722	42,945	59.48	0	0	0	0	0	0	0	0	0	2,596	3,771	4,219	6,020	6,403	-12
Navy	GA	B42237	NAVSUBASE KINGS BAY MFH	12,326	393,647	31.94	0	0	0	0	0	0	0	0	0	23,794	34,566	38,676	55,179	58,688	-210
				13,187	445,716	33.80	0	0	0	0	0	0	0	0	0	26,941	39,139	43,792	62,478	66,451	-224
Navy	LA	D00205	NSA NEW ORLEANS MFH	4,577	298,936	65.31	0	0	0	0	0	0	0	0	0	8,001	15,769	23,310	30,632	37,741	2,087
Navy	LA	D00206	NAS NEW ORLEANS MFH	3,041	182,116	59.89	0	0	0	0	0	0	0	0	0	4,874	9,607	14,201	18,662	22,992	1,387
				7,618	481,052	63.15	0	0	0	0	0	0	0	0	0	12,875	25,375	37,511	49,294	60,733	3,474
Navy	MS	D63043	NAS MERIDIAN MFH	6,865	393,024	57.25	0	0	0	0	0	0	0	0	0	23,756	34,512	38,615	55,092	58,595	-117
Navy	MS	D62604	NCBC GULFPORT MFH	1,671	74,671	44.69	0	0	0	0	0	0	0	0	0	4,513	6,557	7,336	10,467	11,133	-28
				8,536	467,695	54.79	0	0	0	0	0	0	0	0	0	28,270	41,068	45,951	65,559	69,728	-145
Navy	SC	D61337	NH BEAUFORT MFH	568	24,640	43.38	0	0	0	0	0	0	0	0	0	1,489	2,164	2,421	3,454	3,674	-10
Navy	SC	B00193	NWS CHARLESTON MFH	28,752	1,249,713	43.47	0	0	0	0	0	0	0	0	0	75,539	109,738	122,784	175,177	186,318	-489
				29,320	1,274,353	43.46	0	0	0	0	0	0	0	0	0	77,028	111,901	125,205	178,631	189,991	-498
Navy	TX	D60241	NAS KINGSVILLE MFH	3,839	246,846	64.30	0	0	0	0	0	0	0	0	0	6,553	12,914	19,091	21,963	27,785	1,800
Navy	TX	D00216	NAS CORPUS CHRISTI MFH	10,815	493,121	45.60	0	0	0	0	0	0	0	0	0	13,090	25,799	38,138	43,875	55,505	5,072
				14,654	739,967	50.50	0	0	0	0	0	0	0	0	0	19,643	38,713	57,228	65,838	83,290	6,873
Navy	VA	D00178	NSWC DAHLGREN MFH	2,809	105,307	37.49	0	0	0	0	0	0	0	0	0	6,365	9,247	10,346	14,761	15,700	-48
Navy	VA	D63891	NSGA NORTHWEST CHESAPEAKE MFH	2,167	106,074	48.95	0	0	0	0	0	0	0	0	0	6,412	9,314	10,422	14,869	15,814	-37
Navy	VA	B00187	PWC NORFOLK MFH	22,297	1,090,306	48.90	0	0	0	0	0	0	0	0	0	65,903	95,740	107,123	152,832	162,552	-379
Navy	VA	D00109	NWS YORKTOWN MFH	6,629	402,196	60.67	0	0	0	0	0	0	0	0	0	24,311	35,317	39,516	56,377	59,963	-113
Navy	VA	B00181	NSY PORTSMOUTH MFH	1,479	82,673	55.90	0	0	0	0	0	0	0	0	0	4,997	7,260	8,123	11,589	12,326	-25
Navy	VA	D60191	NAS OCEANA VIRGINIA BEACH MFH	2,992	134,613	44.99	0	0	0	0	0	0	0	0	0	8,137	11,820	13,226	18,869	20,069	-51

**Group of 31 - Military Family Housing Only**

		FY 1996		Total Savings					Total Savings					Total Savings					Total Savings		
		MWth	\$	\$/MMWth	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011		
Navy	VA	D00281		327	14,370	43.94	0	0	0	0	0	0	0	869	1,262	1,412	2,014	2,142	-6		
Navy	VA	B61414		11,414	492,452	43.14	0	0	0	0	0	0	0	29,766	43,242	48,383	69,029	73,419	-194		
				50,114	2,427,991	48.45	0	0	0	0	0	0	0	146,759	213,203	238,550	340,341	361,985	-852		
Navy	WV	D70310		1,200	48,000	40.00	0	0	0	0	0	0	0	1,274	2,511	3,712	4,271	5,403	122		
				199,030	10,421,486		0	0	0	0	0	0	0	439,357	596,659	920,698	1,250,383	1,371,657	40,382		
USAF	AL	RG4444		4,186	218,579	52.22	0	0	0	0	0	0	0	13,212	19,194	21,475	30,639	32,588	-71		
USAF	AL	RP3300		8,092	480,365	59.36	0	0	0	0	0	0	0	29,036	42,181	47,196	67,335	71,617	-138		
				12,278	698,944	56.93	0	0	0	0	0	0	0	42,247	61,375	68,671	97,974	104,204	-209		
USAF	AR	RP4460		38,625	2,333,280	60.41	0	0	0	0	0	0	0	62,449	123,080	181,944	239,094	294,580	17,613		
USAF	CO	RP4500		3,802	276,821	72.81	0	0	0	0	0	0	0	3,890	7,560	11,018	14,269	24,603	3,254		
USAF	CO	RB7000		10,966	444,710	40.55	0	0	0	0	0	0	0	6,249	12,146	17,700	22,923	39,525	9,387		
				14,768	721,531	48.86	0	0	0	0	0	0	0	10,139	19,706	28,718	37,191	64,129	12,641		
USAF	DC	RP4200		17,937	1,101,166	61.39	0	0	0	0	0	0	0	29,231	57,610	85,163	97,975	123,946	1,830		
USAF	DE	RP4497		22,541	1,214,351	53.87	0	0	0	0	0	0	0	46,355	77,963	39,653	83,246	125,971	12,578		
USAF	FL	RP2829		30,215	1,450,156	47.99	0	0	0	0	0	0	0	40,478	39,494	117,930	154,973	170,796	12,932		
USAF	FL	RP2823		36,573	1,649,642	45.11	0	0	0	0	0	0	0	46,046	44,927	134,153	176,292	194,291	15,653		
USAF	FL	RP4417		10,626	501,727	47.22	0	0	0	0	0	0	0	14,005	13,664	40,802	53,618	59,092	4,548		
USAF	FL	RP2586		18,401	874,742	47.54	0	0	0	0	0	0	0	24,416	23,823	71,136	93,481	103,025	7,875		
USAF	FL	RP4814		12,164	686,115	56.40	0	0	0	0	0	0	0	19,151	18,686	55,797	73,323	80,809	5,206		
				107,979	5,162,382	47.81	0	0	0	0	0	0	0	144,096	140,595	419,818	551,686	608,013	46,215		
USAF	GA	RP2065		28,410	1,421,262	50.03	0	0	0	0	0	0	0	85,908	124,802	139,639	195,224	211,893	-483		
USAF	GA	RP4830		4,786	214,289	44.78	0	0	0	0	0	0	0	12,953	18,817	21,054	30,038	31,948	-81		
				33,196	1,635,551	48.27	0	0	0	0	0	0	0	98,860	143,618	160,693	229,261	243,841	-564		
USAF	ID	RP4897		24,634	707,381	28.72	0	0	0	0	0	0	0	25,182	33,911	57,647	80,692	103,066	-41,188		
ISAF	KS	RP4621		5,819	347,079	59.65	0	0	0	0	0	0	0	9,289	16,308	27,065	35,566	43,819	2,651		

DOD Electric Power Cost Savings  
Group of 31 - Military Family Housing Only

	FY 1996		Total Savings					Total Savings					Total Savings					Total Savings				
	MWh	\$	\$/MWh	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011				
USAF LA RP4608 BARKSDALE AFB	8,405	329,483	39.20	0	0	0	0	0	0	0	0	0	8,818	17,380	25,692	33,763	41,598	3,833				
USAF MO RP4625 WHITEMAN AFB	11,219	485,572	43.28	0	0	0	0	0	0	0	0	0	1,347	21,206	34,364	47,138	46,929	3,523				
USAF MS RP3022 COLUMBUS AFB	15,993	853,842	53.39	0	0	0	0	0	0	0	0	0	51,610	74,976	83,890	119,686	127,298	-272				
USAF MS RB3010 KEESLER AFB	24,858	1,088,680	43.80	0	0	0	0	0	0	0	0	0	65,805	95,597	106,963	152,604	162,309	-423				
	40,851	1,942,522	47.55	0	0	0	0	0	0	0	0	0	117,415	170,574	190,853	272,291	289,607	-694				
USAF NC RP4809 SEYMOUR JOHNSON	38,816	2,409,012	62.06	0	0	0	0	0	0	0	0	0	145,612	211,536	236,685	337,680	359,155	-660				
USAF NC RP4488 POPE AFB	6,080	391,541	64.40	0	0	0	0	0	0	0	0	0	23,667	34,381	38,469	54,884	58,374	-103				
	44,896	2,800,553	62.38	0	0	0	0	0	0	0	0	0	169,279	245,918	275,154	382,564	417,530	-763				
USAF ND RP4528 MINOT AFB	25,621	613,052	23.93	0	0	0	0	0	0	0	0	0	16,182	31,892	47,145	71,533	76,332	-14,348				
USAF ND RB4659 GRAND FORKS AFB	40,935	1,604,836	39.20	0	0	0	0	0	0	0	0	0	42,361	83,488	123,416	187,258	199,819	-22,924				
	66,557	2,217,888	33.32	0	0	0	0	0	0	0	0	0	58,543	115,380	170,562	258,791	276,151	-37,272				
USAF NM RP4469 KIRTLAND AFB	16,170	924,933	57.20	0	0	0	0	0	0	0	0	0	12,997	25,262	36,814	47,676	82,207	-9,055				
USAF NM RP4855 CANNON AFB	15,608	663,644	42.52	0	0	0	0	0	0	0	0	0	9,326	18,125	26,414	34,208	58,984	-8,741				
USAF NM RP4801 HOLLOMAN AFB	13,512	933,463	69.08	0	0	0	0	0	0	0	0	0	13,117	25,494	37,154	48,115	82,965	-7,567				
	45,290	2,522,040	55.69	0	0	0	0	0	0	0	0	0	35,440	68,881	100,382	129,999	224,155	-25,362				
USAF OH RP2300 WRIGHT PATTERSON	29,630	1,488,354	50.23	0	0	0	0	0	0	0	0	0	39,509	77,867	115,108	132,425	167,528	3,022				
USAF OK RP3029 VANCE AFB	0	0	NA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
USAF OK RP4419 ALTUS AFB	12,034	548,388	45.57	0	0	0	0	0	0	0	0	0	14,677	28,927	42,762	56,194	69,235	5,487				
USAF OK RP2039 TINKER AFB	6,309	212,959	33.76	0	0	0	0	0	0	0	0	0	5,700	11,234	16,606	21,822	26,886	2,877				
	18,342	761,347	41.51	0	0	0	0	0	0	0	0	0	20,377	40,161	59,368	78,016	96,121	8,364				
USAF SC RP4418 CHARLESTON AFB	16,655	738,401	44.33	0	0	0	0	0	0	0	0	0	44,632	64,839	72,548	103,504	110,087	-283				
USAF SC RP4803 SHAW AFB	32,155	1,993,249	61.99	0	0	0	0	0	0	0	0	0	120,481	175,028	195,837	279,401	297,170	-547				
	48,810	2,731,650	55.96	0	0	0	0	0	0	0	0	0	165,114	239,867	288,385	382,906	407,257	-830				
USAF SD RP4690 ELLSWORTH AFB	19,517	599,114	30.70	0	0	0	0	0	0	0	0	0	15,814	31,167	46,074	69,907	74,596	-10,930				
USAF TN RY7483 ARNOLD AFB	1,257	47,467	37.77	0	0	0	0	0	0	0	0	0	2,869	4,168	4,664	6,654	7,077	-21				

## DOD Electric Power Cost Savings

Group of 31 - Military Family Housing Only

FY 1996			Total Savings					Total Savings					Total Savings					Total Savings				
MWH	\$	\$/MWH	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011					
USAF TX RG2857	2,752	109,854	39.91	0	0	0	0	0	0	0	0	2,916	5,747	8,496	9,774	12,365	1,291					
USAF TX RP3030	4,670	288,556	61.79	0	0	0	0	0	0	0	0	7,660	15,097	22,317	25,674	32,480	2,190					
USAF TX RP4661	12,546	484,327	38.60	0	0	0	0	0	0	0	0	12,857	25,339	37,457	43,092	54,515	5,884					
USAF TX RP3089	11,273	437,128	38.78	0	0	0	0	0	0	0	0	11,604	22,870	33,807	38,893	49,203	5,287					
USAF TX RP3099	3,203	162,507	50.74	0	0	0	0	0	0	0	0	4,314	8,502	12,568	14,459	18,292	1,502					
USAF TX RB3047	12,745	576,324	45.22	0	0	0	0	0	0	0	0	15,299	30,152	44,572	51,278	64,871	5,977					
USAF TX RP3020	25,082	1,222,867	48.76	0	0	0	0	0	0	0	0	32,462	63,978	94,576	108,803	137,645	11,763					
	72,272	3,281,563	45.41	0	0	0	0	0	0	0	0	87,110	171,684	253,794	291,973	369,370	33,899					
USAF UT RP2027	9,757	340,436	34.89	0	0	0	0	0	0	0	0	12,119	16,320	27,743	38,834	49,602	-16,313					
USAF VA RP4800	27,709	1,420,632	51.27	0	0	0	0	0	0	0	0	85,870	124,746	139,577	199,135	211,800	-471					
USAF WY RP4613	6,168	221,491	35.91	0	0	0	0	0	0	0	0	3,112	6,049	8,816	11,417	19,686	5,279					
TOTAL (AIR FORCE)			728,454	35,111,777	0	0	0	0	0	0	0	1,290,586	2,027,535	2,789,908	3,798,497	4,410,575	16,829					
USMC GA K67004	9,656	510,317	52.85	0	0	0	0	0	0	0	0	30,846	44,811	50,139	71,533	76,082	-164					
USMC MO K67443	13,997	163,522	11.68	0	0	0	0	0	0	0	0	454	7,141	11,572	15,874	15,804	4,395					
USMC NC K00146	59,135	3,702,230	62.61	0	0	0	0	0	0	0	0	223,780	325,094	363,744	518,956	551,959	-1,005					
USMC NC K67001	100,144	6,349,992	63.41	0	0	0	0	0	0	0	0	383,824	557,595	623,887	890,103	946,709	-1,702					
	159,279	10,052,222	63.11	0	0	0	0	0	0	0	0	607,604	882,690	987,631	1,409,058	1,498,668	-2,708					
USMC SC K00263	6,264	251,674	40.18	0	0	0	0	0	0	0	0	15,212	22,100	24,727	35,278	37,522	-106					
USMC SC K60169	22,925	1,212,181	52.88	0	0	0	0	0	0	0	0	73,270	106,442	119,097	169,916	180,722	-390					
	29,189	1,463,855	50.15	0	0	0	0	0	0	0	0	88,482	128,542	143,824	205,194	218,244	-496					
USMC VA K00264	22,147	1,185,767	53.54	0	0	0	0	0	0	0	0	71,673	104,123	116,502	166,213	176,784	-376					
TOTAL (MARINE CORPS)			234,268	13,375,683	0	0	0	0	0	0	0	799,059	1,167,307	1,309,667	1,867,873	1,985,582	650					
TOTAL (ALL SERVICES)			1,161,752	58,908,946	0	0	0	0	0	0	0	2,529,002	3,791,500	5,020,273	6,916,753	7,767,813	57,841					

DOD Electric Power Cost Savings  
Group of 31 - Military Family Housing Only

				Total Savings	NPV
				Total	
Navy	DC	D00173	NRL WASHINGTON MFH	17,080	10,436
Navy	FL	B00204	PWC PENSACOLA MFH	208,378	126,414
Navy	FL	D00207	NAS JACKSONVILLE MFH	128,829	78,155
Navy	FL	D60508	NAS WHITING FIELD MFH	130,653	79,315
Navy	FL	D00213	NAS KEY WEST MFH	685,004	403,815
Navy	FL	B60201	NS MAYPORT MFH	484,484	293,935
Navy	FL	D61331	NCSC PANAMA CITY MFH	35,294	21,416
				<b>1,652,642</b>	<b>1,003,050</b>
Navy	GA	D00196	NAS ATLANTA MFH	4,886	3,005
Navy	GA	D62741	NSCS ATHENS MFH	22,996	14,144
Navy	GA	B42237	NAVSUBASE KINGS BAY MFH	210,694	129,598
				<b>238,576</b>	<b>146,748</b>
Navy	LA	D00205	NSA NEW ORLEANS MFH	117,541	71,558
Navy	LA	D00206	NAS NEW ORLEANS MFH	71,723	43,658
				<b>189,263</b>	<b>115,217</b>
Navy	MS	D63043	NAS MERIDIAN MFH	210,453	129,445
Navy	MS	D62604	NCBC GULFPORT MFH	39,978	24,590
				<b>250,431</b>	<b>154,034</b>
Navy	SC	D61337	NH BEAUFORT MFH	13,192	8,114
Navy	SC	B00193	NWS CHARLESTON MFH	669,066	411,535
				<b>682,258</b>	<b>419,649</b>
Navy	TX	D60241	NAS KINGSVILLE MFH	90,106	54,975
Navy	TX	D00216	NAS CORPUS CHRISTI MFH	181,479	110,642
				<b>271,585</b>	<b>165,617</b>
Navy	VA	D00178	NSWC DAHLGREN MFH	56,372	34,674
Navy	VA	D63891	NSGA NORTHWEST CHESAPEAKE MFH	56,794	34,933
Navy	VA	B00187	PWC NORFOLK MFH	583,771	359,068
Navy	VA	D00109	NWS YORKTOWN MFH	215,371	132,469
Navy	VA	B00181	NSY PORTSMOUTH MFH	44,268	27,228
Navy	VA	D60191	NAS OCEANA VIRGINIA BEACH MFH	72,070	44,329

DOD Electric Power Cost Savings  
Group of 31 - Military Family Housing Only

				Total Savings	
				Total	NPV
Navy	VA	D00281	FCTC VIRGINIA BEACH MFH	7,693	4,732
Navy	VA	B61414	NPB LITTLE CREEK MFH	263,646	162,165
				1,299,986	799,600
Navy	WW	D70310	NRS SUGAR GROVE MFH	17,294	10,564
TOTAL (NAVY)				4,619,115	2,824,914
USAF	AL	RG4444	GUNTER AFB	117,036	71,987
USAF	AL	RP3300	MAXWELL AFB	257,226	158,214
				374,263	230,200
USAF	AR	RP4460	LITTLE ROCK AFB	918,761	559,267
USAF	CO	RP4500	PETERSON AFB	64,595	39,005
USAF	CO	RB7000	USAF ACADEMY	107,930	64,971
				172,525	103,976
USAF	DC	RP4200	BOLLING AFB	395,755	241,796
USAF	DE	RP4497	DOVER AFB	385,766	236,451
USAF	FL	RP2829	PATRICK AFB	536,604	325,543
USAF	FL	RP2823	EGLIN AFB	611,362	370,848
USAF	FL	RP4417	HURLBURT FLD	185,728	112,673
USAF	FL	RP2586	TYNDALL AFB	323,757	196,411
USAF	FL	RP4814	MACDILL AFB	252,972	153,518
				1,910,423	1,158,993
USAF	GA	RP2065	ROBINS AFB	760,983	468,067
USAF	GA	RP4830	MOODY AFB	114,728	70,567
				875,710	538,634
USAF	ID	RP4897	MT HOME AFB	259,309	160,155
USAF	KS	RP4621	MCCONNELL AFB	136,701	83,210

DOD Electric Power Cost Savings  
Group of 31 - Military Family Housing Only

			Total Savings	NPV
			<u>Total</u>	
USAF	LA	RP4608 BARKSDALE AFB	131,084	79,721
USAF	MO	RP4625 WHITEMAN AFB	154,506	93,514
USAF	MS	RP3022 COLUMBUS AFB	457,189	281,207
USAF	MS	RB3010 KEESLER AFB	582,856	358,508
			1,040,045	639,715
USAF	NC	RP4809 SEYMOUR JOHNSON	1,290,010	793,452
USAF	NC	RP4488 POPE AFB	209,671	128,963
			1,499,681	922,416
USAF	ND	RP4528 MINOT AFB	228,737	140,169
USAF	ND	RB4659 GRAND FORKS AFB	613,418	375,059
			842,155	515,228
USAF	NM	RP4469 KIRTLAND AFB	195,900	119,261
USAF	NM	RP4655 CANNON AFB	138,316	84,325
USAF	NM	RP4801 HOLLOMAN AFB	199,279	121,234
			533,495	324,819
USAF	OH	RP2300 WRIGHT PATTERSON	535,459	327,120
USAF	OK	RP3029 VANCE AFB	0	0
USAF	OK	RP4419 ALTUS AFB	217,283	132,192
USAF	OK	RP2039 TINKER AFB	85,125	51,749
			302,408	183,941
USAF	SC	RP4418 CHARLESTON AFB	395,328	243,161
USAF	SC	RP4803 SHAW AFB	1,067,371	656,513
			1,462,699	899,674
USAF	SD	RP4690 ELLSWORTH AFB	226,628	136,699
USAF	TN	RY7483 ARNOLD AFB	25,410	15,629



DOD Electric Power Cost Savings  
Group of 31 - Military Family Housing Only

				Total Savings	
				Total	NPV
USAF TX	RG2857	BROOKS AFB		40,590	24,737
USAF TX	RP3030	GOODFELLOW AFB		105,417	64,312
USAF TX	RP4661	DYESS AFB		179,145	109,170
USAF TX	RP3089	RANDOLPH AFB		161,663	98,518
USAF TX	RP3099	LAUGHLIN AFB		59,637	36,368
USAF TX	RB3047	LACKLAND AFB		212,149	129,337
USAF TX	RP3020	SHEPPARD AFB		449,226	273,923
				<b>1,207,826</b>	<b>736,364</b>
USAF UT	RP2027	HILL AFB		<b>128,305</b>	<b>79,025</b>
USAF VA	RP4800	LANGLEY AFB		<b>760,657</b>	<b>467,866</b>
USAF WY	RP4613	F E WARREN AFB		<b>54,360</b>	<b>32,695</b>
TOTAL (AIR FORCE)				<b>14,333,930</b>	<b>8,769,110</b>
USMC GA	K67004	MCLB ALBANY MFH		<b>273,247</b>	<b>168,069</b>
USMC MO	K67443	MCFC KANSAS CITY MFH TOTAL		<b>55,240</b>	<b>33,274</b>
USMC NC	K00146	MCAS CHERRY POINT MFH		<b>1,982,528</b>	<b>1,219,402</b>
USMC NC	K67001	MCB CAMP LEJEUNE MFH		<b>3,400,415</b>	<b>2,091,507</b>
				<b>5,382,943</b>	<b>3,310,909</b>
USMC SC	K00263	MCRD PARRIS ISLAND MFH		<b>134,732</b>	<b>82,873</b>
USMC SC	K60169	MCAS BEAUFORT MFH		<b>649,057</b>	<b>399,222</b>
				<b>783,789</b>	<b>482,095</b>
USMC VA	K00264	MCB QUANTICO MFH		<b>634,919</b>	<b>390,525</b>
TOTAL (MARINE CORPS)				<b>7,130,139</b>	<b>4,384,872</b>
TOTAL (ALL SERVICES)				<b>26,083,183</b>	<b>15,978,896</b>

**APPENDIX C-5**

**DOD ELECTRIC**

**POWER COST SAVINGS**

**SUMMARY**

**MAIN BASE AND**

**MILITARY FAMILY HOUSING**

DOD ELECTRIC POWER COST SAVINGS SUMMARY  
MAIN BASE AND MILITARY FAMILY HOUSING

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
<b>ALABAMA</b>												
Army	0	0	0	0	0	0	0	0	0	1,462,307	1,585,742	2,344,144
Navy	0	0	0	0	0	0	0	0	0	2,632	2,854	4,219
USAF	0	0	0	0	0	0	0	0	0	292,487	332,739	469,818
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,757,427</b>	<b>1,921,334</b>	<b>2,818,180</b>
<b>ARKANSAS</b>												
Army	0	0	0	0	0	0	0	0	0	38,527	105,993	142,308
Navy	0	0	0	0	0	0	0	0	0	385	1,058	1,421
USAF	0	0	0	0	0	0	0	0	0	129,367	307,183	429,123
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>168,278</b>	<b>414,234</b>	<b>572,852</b>
<b>ARIZONA</b>												
Army	0	0	0	0	0	0	0	0	0	0	0	130,702
Navy	0	0	0	0	0	0	0	0	0	0	0	1,215
USAF	0	0	0	0	0	0	0	0	0	0	0	169,894
USMC	0	0	0	0	0	0	0	0	0	0	0	53,851
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>355,662</b>
<b>CALIFORNIA</b>												
Army	337,832	513,208	831,647	682,960	983,119	161,958	205,661	191,639	169,069	172,007	158,786	158,786
Navy	2,680,229	4,190,786	6,713,559	5,578,122	7,952,476	1,853,117	2,353,165	2,192,721	1,934,485	1,968,101	1,816,826	1,816,826
USAF	701,977	1,112,605	1,772,890	1,481,069	2,102,055	484,347	615,044	573,109	505,614	514,400	474,862	474,862
USMC	634,962	1,056,209	1,651,954	1,406,461	1,965,241	372,409	472,900	440,657	388,761	395,516	365,116	365,116
<b>Total</b>	<b>4,355,000</b>	<b>6,872,809</b>	<b>10,970,050</b>	<b>9,148,612</b>	<b>13,002,891</b>	<b>2,871,831</b>	<b>3,646,770</b>	<b>3,398,126</b>	<b>2,997,929</b>	<b>3,050,025</b>	<b>2,815,590</b>	<b>2,815,590</b>
<b>COLORADO</b>												
Army	0	0	0	0	0	0	0	0	0	32,640	150,223	175,910
USAF	0	0	0	0	0	0	0	0	0	82,364	352,120	417,974
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>115,004</b>	<b>502,343</b>	<b>593,884</b>
<b>CONNECTICUT</b>												
Navy	10,279	359,904	530,835	345,997	0	0	0	0	1,681	23,359	10,465	23,172
<b>Total</b>	<b>10,279</b>	<b>359,904</b>	<b>530,835</b>	<b>345,997</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,681</b>	<b>23,359</b>	<b>10,465</b>	<b>23,172</b>
<b>DELAWARE</b>												
USAF	0	0	0	0	0	0	0	0	0	166,287	226,442	125,356
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>166,287</b>	<b>226,442</b>	<b>125,356</b>

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
<b>DISTRICT OF COLUMBIA</b>												
Army	0	0	0	0	0	0	0	0	0	210,321	414,516	612,763
Navy	0	0	0	0	0	0	0	0	0	428,511	844,541	1,248,454
USAF	0	0	0	0	0	0	0	0	0	151,700	298,981	441,973
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>790,532</b>	<b>1,558,038</b>	<b>2,303,190</b>
<b>FLORIDA</b>												
Navy	0	0	0	0	0	0	0	0	0	1,036,575	211,698	2,451,177
USAF	0	0	0	0	0	0	0	0	0	1,066,514	231,127	2,531,443
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,103,090</b>	<b>442,825</b>	<b>4,982,620</b>
<b>GEORGIA</b>												
Army	0	0	0	0	0	0	0	0	0	1,474,497	1,598,960	2,363,684
Navy	0	0	0	0	0	0	0	0	0	377,603	419,400	605,919
USAF	0	0	0	0	0	0	0	0	0	710,115	806,470	1,140,562
USMC	0	0	0	0	0	0	0	0	0	169,932	195,637	273,100
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,732,147</b>	<b>3,020,468</b>	<b>4,383,264</b>
<b>IDAHO</b>												
Navy	0	0	0	0	0	0	0	0	0	6,655	13,117	19,390
USAF	0	0	0	0	0	0	0	0	0	75,117	132,328	203,132
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>81,773</b>	<b>145,445</b>	<b>222,523</b>
<b>ILLINOIS</b>												
Army	0	0	0	0	0	0	364,098	710,964	937,119	939,155	1,146,442	43,320
Navy	0	0	0	0	0	0	493,777	954,601	1,261,986	1,261,561	1,530,020	61,127
USAF	0	0	0	0	0	0	632,335	1,213,918	1,608,166	1,604,779	1,937,276	67,031
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,490,211</b>	<b>2,879,484</b>	<b>3,807,272</b>	<b>3,805,494</b>	<b>4,613,738</b>	<b>171,478</b>
<b>INDIANA</b>												
Army	0	0	0	0	0	0	0	0	0	0	0	1,107
Navy	0	0	0	0	0	0	0	0	0	0	0	28,097
USAF	0	0	0	0	0	0	0	0	0	0	0	15,270
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>44,473</b>
<b>KANSAS</b>												
Army	0	0	0	0	0	0	0	0	0	287,317	790,461	1,061,285
Navy	0	0	0	0	0	0	0	0	0	683	1,879	2,522
USAF	0	0	0	0	0	0	0	0	0	74,578	197,929	268,227
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>362,578</b>	<b>990,268</b>	<b>1,332,034</b>

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
KENTUCKY												
Army	0	0	0	0	0	0	0	0	0	512,162	1,009,406	1,492,167
Total	0	0	0	0	0	0	0	0	0	512,162	1,009,406	1,492,167
LOUISIANA												
Army	0	0	0	0	0	0	0	0	0	277,572	763,650	1,025,289
Navy	0	0	0	0	0	0	0	0	0	121,110	323,148	437,306
USAF	0	0	0	0	0	0	0	0	0	87,202	233,028	315,224
USMC	0	0	0	0	0	0	0	0	0	7,786	21,421	28,761
Total	0	0	0	0	0	0	0	0	0	493,670	1,341,247	1,806,579
MAINE												
Navy	0	0	0	0	0	0	0	0	10,506	6,534	2,927	6,481
Total	0	0	0	0	0	0	0	0	10,506	6,534	2,927	6,481
MARYLAND												
Army	0	0	0	0	0	0	0	0	0	355,177	345,095	324,930
Navy	0	0	0	0	0	0	0	0	0	359,314	349,114	328,714
USAF	0	0	0	0	0	0	0	0	0	109,981	106,858	100,614
Total	0	0	0	0	0	0	0	0	0	824,472	801,067	754,259
MASSACHUSETTS												
Army	0	0	0	0	0	0	0	0	0	0	0	3,090
Navy	0	0	0	0	0	0	0	0	0	0	0	5,087
USAF	0	0	0	0	0	0	-608	598	1,850	1,151	516	11,382
Total	0	0	0	0	0	0	-608	598	1,850	1,151	516	19,558
MICHIGAN												
Army	0	0	0	0	0	0	0	0	0	0	0	22,864
Total	0	0	0	0	0	0	0	0	0	0	0	22,864
MINNESOTA												
Navy	0	0	0	0	0	0	0	0	0	45,866	90,397	133,630
USAF	0	0	0	0	0	0	0	0	0	6,493	12,798	18,918
Total	0	0	0	0	0	0	0	0	0	52,360	103,194	152,548

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>MISSISSIPPI</b>												
Army	0	0	0	0	0	0	0	0	0	21,746	23,581	34,859
Navy	0	0	0	0	0	0	0	0	0	178,905	204,418	287,425
USAF	0	0	0	0	0	0	0	0	0	458,225	540,152	737,187
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>658,875</b>	<b>768,151</b>	<b>1,059,471</b>
<b>MISSOURI</b>												
Army	0	0	0	0	0	0	0	0	0	42,885	384,717	568,713
USAF	0	0	0	0	0	0	0	0	0	21,055	198,004	295,718
USMC	0	0	0	0	0	0	0	0	0	454	7,141	11,572
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>64,394</b>	<b>589,862</b>	<b>876,002</b>
<b>MONTANA</b>												
USAF	0	0	0	0	0	136,538	410,418	410,589	522,752	644,064	749,054	-143,494
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>136,538</b>	<b>410,418</b>	<b>410,589</b>	<b>522,752</b>	<b>644,064</b>	<b>749,054</b>	<b>-143,494</b>
<b>NEVADA</b>												
Army	0	0	0	0	0	0	0	0	0	13,599	12,553	12,553
Navy	0	0	0	0	0	0	0	0	0	39,722	36,669	36,669
USAF	0	0	0	0	0	0	0	0	0	149,290	137,815	137,815
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>202,611</b>	<b>187,037</b>	<b>187,037</b>
<b>NEW HAMPSHIRE</b>												
Army	0	1,387	743	339	-836	-490	-590	581	1,796	1,117	500	1,108
Navy	0	68,593	4,695	2,139	-10,872	-3,086	-3,716	3,295	11,316	7,038	3,132	6,981
USAF	0	822	440	201	-496	-290	-349	344	1,064	662	296	657
<b>Total</b>	<b>0</b>	<b>70,801</b>	<b>5,879</b>	<b>2,680</b>	<b>-12,204</b>	<b>-3,866</b>	<b>-4,655</b>	<b>4,220</b>	<b>14,176</b>	<b>8,816</b>	<b>3,929</b>	<b>8,746</b>
<b>NEW JERSEY</b>												
Army	0	506,195	2,555,546	1,372,139	0	0	0	0	0	0	0	185,119
Navy	0	149,796	743,347	408,550	0	0	0	0	0	0	0	48,170
USAF	0	174,425	860,671	476,668	0	0	0	0	0	0	0	59,410
<b>Total</b>	<b>0</b>	<b>830,416</b>	<b>4,159,565</b>	<b>2,257,357</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>292,700</b>
<b>NEW MEXICO</b>												
Army	0	0	0	0	0	0	0	0	0	50,905	234,290	274,353
Navy	0	0	0	0	0	0	0	0	0	2,318	10,670	12,495
USAF	0	0	0	0	0	0	0	0	0	118,944	453,203	550,421
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>172,168</b>	<b>698,163</b>	<b>837,269</b>

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>NEW YORK</b>												
Army	0	2,067,861	2,558,121	3,034,101	3,132,754	3,217,948	227,137	144,175	176,125	171,024	158,673	145,249
USAF	0	51,509	63,721	75,577	78,034	80,157	4,346	2,759	3,370	3,272	3,036	2,779
<b>Total</b>	0	2,119,370	2,621,842	3,109,678	3,210,789	3,298,104	231,483	146,934	179,495	174,296	161,709	148,028
<b>NORTH CAROLINA</b>												
Army	0	0	0	0	0	0	0	0	0	1,228,763	1,332,484	1,969,762
Navy	0	0	0	0	0	0	0	0	0	333,036	361,148	533,872
USAF	0	0	0	0	0	0	0	0	0	431,527	530,302	695,549
USMC	0	0	0	0	0	0	0	0	0	1,370,378	1,709,850	2,210,391
<b>Total</b>	0	0	0	0	0	0	0	0	0	3,363,704	3,933,785	5,409,574
<b>NORTH DAKOTA</b>												
Army	0	0	0	0	0	0	0	0	0	431	850	1,257
USAF	0	0	0	0	0	0	0	0	0	234,189	461,556	682,302
<b>Total</b>	0	0	0	0	0	0	0	0	0	234,621	462,407	683,558
<b>OHIO</b>												
Army	0	0	0	0	0	0	0	0	0	98,563	194,255	287,161
Navy	0	0	0	0	0	0	0	0	0	22,006	43,371	64,113
USAF	0	0	0	0	0	0	0	0	0	507,781	1,000,771	1,479,403
<b>Total</b>	0	0	0	0	0	0	0	0	0	628,349	1,238,397	1,830,677
<b>OKLAHOMA</b>												
Army	0	0	0	0	0	0	0	0	0	29,975	82,465	110,719
USAF	0	0	0	0	0	0	0	0	0	368,025	996,602	1,343,500
<b>Total</b>	0	0	0	0	0	0	0	0	0	397,999	1,079,067	1,454,219
<b>OREGON</b>												
Army	0	0	0	0	0	0	0	0	0	3,572	7,040	10,406
<b>Total</b>	0	0	0	0	0	0	0	0	0	3,572	7,040	10,406
<b>PENNSYLVANIA</b>												
Army	0	0	0	0	0	0	0	0	0	176,967	171,944	161,897
Navy	0	0	0	0	0	0	0	0	0	81,571	79,256	74,624
USAF	0	0	0	0	0	0	0	0	0	9,638	9,364	8,817
<b>Total</b>	0	0	0	0	0	0	0	0	0	268,176	260,564	245,338

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>RHODE ISLAND</b>												
Navy	0	1,153,851	1,271,983	1,383,259	74,506	75,665	76,859	78,151	79,163	78,249	77,097	77,940
<b>Total</b>	0	1,153,851	1,271,983	1,383,259	74,506	75,665	76,859	78,151	79,163	78,249	77,097	77,940
<b>SOUTH CAROLINA</b>												
Army	0	0	0	0	0	0	0	0	0	213,756	231,800	342,661
Navy	0	0	0	0	0	0	0	0	0	313,063	367,860	503,579
USAF	0	0	0	0	0	0	0	0	0	415,369	511,246	669,554
USMC	0	0	0	0	0	0	0	0	0	269,458	324,795	433,937
<b>Total</b>	0	0	0	0	0	0	0	0	0	1,211,646	1,435,700	1,949,732
<b>SOUTH DAKOTA</b>												
USAF	0	0	0	0	0	0	0	0	0	57,786	113,888	168,357
<b>Total</b>	0	0	0	0	0	0	0	0	0	57,786	113,888	168,357
<b>TENNESSEE</b>												
Army	0	0	0	0	0	0	0	0	0	11,281	12,233	18,084
Navy	0	0	0	0	0	0	0	0	0	107,921	117,030	173,002
USAF	0	0	0	0	0	0	0	0	0	914,331	992,567	1,465,778
<b>Total</b>	0	0	0	0	0	0	0	0	0	1,033,533	1,121,831	1,656,864
<b>TEXAS</b>												
Army	0	0	0	0	0	0	0	0	0	1,129,773	2,226,640	3,291,559
Navy	0	0	0	0	0	0	0	0	0	381,743	752,366	1,112,195
USAF	0	0	0	0	0	0	0	0	0	626,460	1,234,676	1,825,175
<b>Total</b>	0	0	0	0	0	0	0	0	0	2,137,976	4,213,681	6,228,929
<b>UTAH</b>												
Army	0	0	0	0	0	0	0	0	0	121,021	238,516	352,590
Navy	0	0	0	0	0	0	0	0	0	11,982	23,614	34,908
USAF	0	0	0	0	0	0	0	0	0	286,080	556,262	825,920
<b>Total</b>	0	0	0	0	0	0	0	0	0	419,082	818,393	1,213,417
<b>VIRGINIA</b>												
Army	0	0	0	0	0	0	0	0	0	1,114,534	1,208,613	1,786,648
Navy	0	0	0	0	0	0	0	0	0	3,036,646	3,347,028	4,871,168
USAF	0	0	0	0	0	0	0	0	0	278,390	333,517	448,195
USMC	0	0	0	0	0	0	0	0	0	309,216	361,718	497,295
<b>Total</b>	0	0	0	0	0	0	0	0	0	4,738,787	5,250,876	7,603,305



	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
WASHINGTON												
Army	0	0	877,375	1,130,304	1,375,867	1,614,277	2,154,172	-309,232	-340,178	-348,683	-386,008	-397,347
Navy	0	0	2,521,363	3,532,510	4,114,605	4,746,015	6,069,967	-764,411	-840,911	-861,934	-954,200	-982,231
USAF	0	0	562,521	868,116	963,201	1,088,950	1,320,281	-192,812	-212,107	-217,410	-240,683	-247,753
Total	0	0	3,961,259	5,530,930	6,453,673	7,449,243	9,544,420	-1,266,455	-1,393,197	-1,428,027	-1,580,891	-1,627,331
WISCONSIN												
Army	0	0	0	0	0	0	0	0	0	6,833	61,296	90,612
USAF	0	0	0	0	0	0	0	0	0	1,318	11,824	17,479
Total	0	0	0	0	0	0	0	0	0	8,151	73,120	108,091
WEST VIRGINIA												
Navy	0	0	0	0	0	0	0	0	0	30,651	60,409	89,301
Total	0	0	0	0	0	0	0	0	0	30,651	60,409	89,301
WYOMING												
USAF	0	0	0	0	0	0	0	0	0	23,763	101,094	120,114
Total	0	0	0	0	0	0	0	0	0	23,763	101,094	120,114
GRAND TOTAL	4,365,279	11,407,150	23,521,413	21,778,513	22,729,654	13,827,515	15,394,897	5,651,647	6,221,626	32,179,583	41,743,910	55,486,987

Note: The totals on this page may vary slightly from those which could be obtained by adding the totals from the separate appendices.  
This is due to variations in rounding.

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>Total</u>	<u>NPV</u>
<b>ALABAMA</b>					
Army	3,080,456	3,795,323	-10,330	12,257,643	7,518,107
Navy	5,544	6,830	-17	22,061	13,531
USAF	625,124	753,687	-2,152	2,471,703	1,516,655
<b>Total</b>	<b>3,711,124</b>	<b>4,555,839</b>	<b>-12,499</b>	<b>14,751,407</b>	<b>9,048,292</b>
<b>ARKANSAS</b>					
Army	177,566	211,796	11,075	687,265	418,862
Navy	1,773	2,114	102	6,853	4,177
USAF	547,513	662,454	40,442	2,116,082	1,288,794
<b>Total</b>	<b>726,851</b>	<b>876,365</b>	<b>51,619</b>	<b>2,810,200</b>	<b>1,711,832</b>
<b>ARIZONA</b>					
Army	125,003	128,224	106,048	489,977	289,641
Navy	1,162	1,192	986	4,556	2,693
USAF	162,486	166,673	137,847	636,900	376,491
USMC	51,503	52,831	43,694	201,879	119,337
<b>Total</b>	<b>340,155</b>	<b>348,920</b>	<b>288,575</b>	<b>1,333,313</b>	<b>788,162</b>
<b>CALIFORNIA</b>					
Army	143,562	133,680	114,850	4,958,764	4,019,318
Navy	1,642,632	1,529,557	1,314,105	45,536,708	36,182,767
USAF	429,333	399,779	343,466	11,985,411	9,529,660
USMC	330,109	307,385	264,087	10,416,883	8,376,807
<b>Total</b>	<b>2,545,635</b>	<b>2,370,400</b>	<b>2,036,508</b>	<b>72,897,766</b>	<b>58,108,552</b>
<b>COLORADO</b>					
Army	198,273	305,878	88,528	951,452	574,376
USAF	475,930	740,978	201,945	2,271,312	1,371,299
<b>Total</b>	<b>674,203</b>	<b>1,046,856</b>	<b>290,473</b>	<b>3,222,765</b>	<b>1,945,676</b>
<b>CONNECTICUT</b>					
Navy	49,146	35,879	32,328	1,423,043	1,216,722
<b>Total</b>	<b>49,146</b>	<b>35,879</b>	<b>32,328</b>	<b>1,423,043</b>	<b>1,216,722</b>
<b>DELAWARE</b>					
USAF	282,489	436,745	42,298	1,279,617	783,079
<b>Total</b>	<b>282,489</b>	<b>436,745</b>	<b>42,298</b>	<b>1,279,617</b>	<b>783,079</b>

	2009	2010	2011	Total	NPV
<b>DISTRICT OF COLUMBIA</b>					
Army	805,236	831,637	13,368	2,887,841	1,765,353
Navy	1,640,000	1,694,752	40,156	5,896,414	3,603,781
USAF	566,862	608,205	9,720	2,077,442	1,269,814
<b>Total</b>	<b>3,012,098</b>	<b>3,134,594</b>	<b>63,244</b>	<b>10,861,696</b>	<b>6,638,948</b>
<b>FLORIDA</b>					
Navy	3,399,791	4,258,425	308,390	11,666,056	7,040,985
USAF	3,507,454	4,383,338	345,999	12,065,875	7,281,641
<b>Total</b>	<b>6,907,245</b>	<b>8,641,763</b>	<b>654,389</b>	<b>23,731,931</b>	<b>14,322,626</b>
<b>GEORGIA</b>					
Army	3,106,133	3,826,959	-10,531	12,359,701	7,580,710
Navy	801,173	976,571	-3,801	3,176,865	1,948,983
USAF	1,516,914	1,830,313	-5,343	5,999,032	3,681,001
USMC	364,528	437,071	-1,260	1,439,008	883,084
<b>Total</b>	<b>5,788,748</b>	<b>7,070,914</b>	<b>-20,936</b>	<b>22,974,607</b>	<b>14,093,778</b>
<b>IDAHO</b>					
Navy	18,110	24,023	-6,770	74,526	46,118
USAF	216,571	283,312	-119,857	790,602	490,699
<b>Total</b>	<b>234,681</b>	<b>307,335</b>	<b>-126,627</b>	<b>865,128</b>	<b>536,817</b>
<b>ILLINOIS</b>					
Army	44,453	41,716	29,635	4,256,901	2,928,052
Navy	62,725	58,863	41,817	5,726,477	3,938,601
USAF	68,784	64,549	45,856	7,242,695	4,985,851
<b>Total</b>	<b>175,961</b>	<b>165,127</b>	<b>117,308</b>	<b>17,226,073</b>	<b>11,852,515</b>
<b>INDIANA</b>					
Army	1,046	811	328	3,291	1,969
Navy	26,545	20,582	8,331	83,555	50,003
USAF	14,427	11,186	4,528	45,411	27,176
<b>Total</b>	<b>42,017</b>	<b>32,579</b>	<b>13,187</b>	<b>132,257</b>	<b>79,148</b>
<b>KANSAS</b>					
Army	1,324,221	1,579,499	110,288	5,153,070	3,139,098
Navy	3,147	3,754	106	12,091	7,374
USAF	336,476	402,738	21,571	1,301,520	793,114
<b>Total</b>	<b>1,663,845</b>	<b>1,985,990</b>	<b>131,965</b>	<b>6,466,681</b>	<b>3,939,586</b>

	2009	2010	2011	Total	NPV
<b>KENTUCKY</b>					
Army	1,960,867	2,025,156	49,189	7,048,947	4,308,128
Total	1,960,867	2,025,156	49,189	7,048,947	4,308,128
<b>LOUISIANA</b>					
Army	1,279,307	1,525,926	88,037	4,959,782	3,022,350
Navy	548,139	655,743	34,884	2,120,331	1,323,644
USAF	395,027	472,505	38,519	1,541,504	938,659
USMC	35,886	42,804	1,758	138,416	84,385
Total	2,258,359	2,696,978	163,198	8,760,033	5,369,038
<b>MAINE</b>					
Navy	13,746	10,035	9,042	59,272	36,816
Total	13,746	10,035	9,042	59,272	36,816
<b>MARYLAND</b>					
Army	317,139	293,308	255,727	1,891,375	1,168,901
Navy	320,833	296,724	258,706	1,913,405	1,182,516
USAF	98,202	90,823	79,186	585,664	361,950
Total	736,173	680,854	593,620	4,390,444	2,713,368
<b>MASSACHUSETTS</b>					
Army	6,553	4,784	4,311	18,738	11,022
Navy	10,789	7,876	7,097	30,849	18,146
USAF	24,140	17,623	15,879	72,531	42,988
Total	41,482	30,283	27,287	122,118	72,156
<b>MICHIGAN</b>					
Army	21,601	16,749	6,779	67,994	40,690
Total	21,601	16,749	6,779	67,994	40,690
<b>MINNESOTA</b>					
Navy	175,604	216,356	-20,247	641,606	392,331
USAF	24,861	30,630	-2,662	91,038	55,657
Total	200,465	246,986	-22,909	732,644	447,988

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>Total</u>	<u>NPV</u>
<b>MISSISSIPPI</b>					
Army	45,809	56,439	-161	182,273	111,796
Navy	382,882	460,690	-1,174	1,513,146	928,506
USAF	990,232	1,174,157	-3,387	3,896,565	2,391,751
<b>Total</b>	<b>1,418,922</b>	<b>1,691,287</b>	<b>-4,721</b>	<b>5,591,984</b>	<b>3,432,052</b>
<b>MISSOURI</b>					
Army	595,033	768,467	36,661	2,396,476	1,455,581
USAF	320,587	400,080	24,185	1,259,529	764,549
USMC	15,874	15,804	4,395	55,240	33,274
<b>Total</b>	<b>931,495</b>	<b>1,184,351</b>	<b>65,241</b>	<b>3,711,244</b>	<b>2,253,404</b>
<b>MONTANA</b>					
USAF	-136,840	-141,702	-142,641	2,308,738	1,675,920
<b>Total</b>	<b>-136,840</b>	<b>-141,702</b>	<b>-142,641</b>	<b>2,308,738</b>	<b>1,675,920</b>
<b>NEVADA</b>					
Army	11,350	10,569	9,080	69,704	43,143
Navy	33,153	30,871	26,522	203,606	126,022
USAF	124,602	116,024	99,681	765,227	473,639
<b>Total</b>	<b>169,104</b>	<b>157,464</b>	<b>135,284</b>	<b>1,038,537</b>	<b>642,805</b>
<b>NEW HAMPSHIRE</b>					
Army	2,350	1,715	1,546	11,266	7,428
Navy	14,807	10,806	9,740	124,869	97,271
USAF	1,392	1,017	916	6,676	4,402
<b>Total</b>	<b>18,549</b>	<b>13,538</b>	<b>12,202</b>	<b>142,812</b>	<b>109,101</b>
<b>NEW JERSEY</b>					
Army	180,681	167,103	145,693	5,112,476	4,314,320
Navy	47,015	43,482	37,911	1,478,273	1,253,042
USAF	57,986	53,628	46,757	1,729,546	1,462,721
<b>Total</b>	<b>285,681</b>	<b>264,214</b>	<b>230,362</b>	<b>8,320,295</b>	<b>7,030,083</b>
<b>NEW MEXICO</b>					
Army	309,230	477,053	98,733	1,444,563	873,964
Navy	14,083	21,726	3,235	64,528	39,102
USAF	637,249	1,006,696	145,972	2,912,484	1,763,647
<b>Total</b>	<b>960,562</b>	<b>1,505,475</b>	<b>247,939</b>	<b>4,421,576</b>	<b>2,676,714</b>

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>Total</u>	<u>NPV</u>
<b>NEW YORK</b>					
Army	167,802	138,269	111,957	15,451,196	12,851,479
USAF	3,211	2,646	2,142	376,558	314,612
Total	171,013	140,914	114,100	15,827,754	13,166,091
<b>NORTH CAROLINA</b>					
Army	2,588,479	3,189,174	-7,777	10,300,886	6,317,896
Navy	701,565	864,373	-1,710	2,792,284	1,712,583
USAF	945,008	1,098,176	-2,449	3,698,111	2,270,792
USMC	3,015,896	3,478,397	-8,469	11,776,445	7,232,323
Total	7,250,947	8,630,121	-20,405	28,567,726	17,533,595
<b>NORTH DAKOTA</b>					
Army	1,652	2,035	-144	6,081	3,716
USAF	931,272	1,104,691	-118,217	3,295,793	2,015,779
Total	932,923	1,106,726	-118,361	3,301,874	2,019,495
<b>OHIO</b>					
Army	377,360	389,732	6,312	1,353,383	827,328
Navy	84,251	87,014	1,047	301,801	184,512
USAF	1,925,255	2,019,137	47,454	6,979,800	4,265,760
Total	2,386,866	2,495,883	54,813	8,634,984	5,277,600
<b>OKLAHOMA</b>					
Army	138,150	164,782	17,189	543,280	330,644
USAF	1,680,295	2,007,281	187,060	6,582,764	4,007,308
Total	1,818,445	2,172,063	204,249	7,126,043	4,337,952
<b>OREGON</b>					
Army	9,719	12,893	-3,886	39,744	24,610
Total	9,719	12,893	-3,886	39,744	24,610
<b>PENNSYLVANIA</b>					
Army	158,015	146,141	127,417	942,380	582,406
Navy	72,835	67,362	58,731	434,379	268,454
USAF	8,606	7,959	6,939	51,323	31,719
Total	239,456	221,462	193,087	1,428,082	882,579

	2009	2010	2011	Total	NPV
<b>RHODE ISLAND</b>					
Navy	79,687	78,686	77,712	4,662,808	3,960,243
<b>Total</b>	<b>79,687</b>	<b>78,686</b>	<b>77,712</b>	<b>4,662,808</b>	<b>3,960,243</b>
<b>SOUTH CAROLINA</b>					
Army	450,293	554,791	-2,015	1,791,286	1,098,697
Navy	675,856	802,604	-2,287	2,660,675	1,633,099
USAF	910,085	1,056,776	-2,734	3,560,296	2,186,223
USMC	586,434	687,956	-1,973	2,300,606	1,412,432
<b>Total</b>	<b>2,622,668</b>	<b>3,102,127</b>	<b>-9,009</b>	<b>10,312,864</b>	<b>6,330,451</b>
<b>SOUTH DAKOTA</b>					
USAF	230,600	272,580	-40,953	802,256	491,332
<b>Total</b>	<b>230,600</b>	<b>272,580</b>	<b>-40,953</b>	<b>802,256</b>	<b>491,332</b>
<b>TENNESSEE</b>					
Army	23,764	29,279	-78	94,564	58,000
Navy	227,343	280,101	-765	904,631	554,847
USAF	1,926,714	2,372,716	-10,245	7,661,861	4,699,592
<b>Total</b>	<b>2,177,821</b>	<b>2,682,097</b>	<b>-11,088</b>	<b>8,661,056</b>	<b>5,312,439</b>
<b>TEXAS</b>					
Army	4,325,461	4,467,275	417,611	15,858,318	9,674,899
Navy	1,452,178	1,515,082	155,394	5,368,957	3,274,636
USAF	2,356,936	2,502,035	260,666	8,805,948	5,370,351
<b>Total</b>	<b>8,134,575</b>	<b>8,484,391</b>	<b>833,670</b>	<b>30,033,223</b>	<b>18,319,885</b>
<b>UTAH</b>					
Army	329,307	436,832	-145,043	1,333,223	826,415
Navy	32,603	43,248	-17,240	129,115	80,219
USAF	784,305	1,038,484	-364,424	3,126,627	1,938,850
<b>Total</b>	<b>1,146,215</b>	<b>1,518,564</b>	<b>-526,706</b>	<b>4,588,965</b>	<b>2,845,485</b>
<b>VIRGINIA</b>					
Army	2,347,847	2,892,700	-9,213	9,341,129	5,729,369
Navy	6,428,097	7,862,497	-23,768	25,521,669	15,655,880
USAF	604,692	711,473	-2,023	2,374,245	1,457,555
USMC	666,615	793,312	-1,990	2,626,166	1,611,833
<b>Total</b>	<b>10,047,252</b>	<b>12,259,982</b>	<b>-36,994</b>	<b>39,863,208</b>	<b>24,454,637</b>

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>Total</u>	<u>NPV</u>
<b>WASHINGTON</b>					
Army	-378,921	-392,386	-394,985	4,204,255	3,916,889
Navy	-936,681	-969,968	-976,391	13,697,733	12,376,698
USAF	-236,264	-244,660	-246,280	2,965,099	2,729,945
<b>Total</b>	<b>-1,551,866</b>	<b>-1,607,014</b>	<b>-1,617,656</b>	<b>20,867,086</b>	<b>19,023,532</b>
<b>WISCONSIN</b>					
Army	94,806	122,438	8,674	384,659	233,488
USAF	18,288	23,619	1,565	74,093	44,980
<b>Total</b>	<b>113,094</b>	<b>146,057</b>	<b>10,239</b>	<b>458,753</b>	<b>278,469</b>
<b>WEST VIRGINIA</b>					
Navy	116,744	121,564	2,843	421,514	257,618
<b>Total</b>	<b>116,744</b>	<b>121,564</b>	<b>2,843</b>	<b>421,514</b>	<b>257,618</b>
<b>WYOMING</b>					
USAF	136,864	213,214	49,251	644,300	389,415
<b>Total</b>	<b>136,864</b>	<b>213,214</b>	<b>49,251</b>	<b>644,300</b>	<b>389,415</b>
<b>GRAND TOTAL</b>	<b>71,097,388</b>	<b>83,443,285</b>	<b>4,086,609</b>	<b>412,935,360</b>	<b>280,779,425</b>

Note: The totals on this page may vary slightly from those which could be obtained by adding the totals from the separate appendices. This is due to variations in rounding.



## **APPENDIX D**

### **RESTRUCTURING WEB SITES**

STATE	REGULATORY AGENCY	STATE LEGISLATURE
ALABAMA		<a href="http://www.state.al.us/legis.html">http://www.state.al.us/legis.html</a>
ARIZONA	<a href="http://www.cc.state.az.us">http://www.cc.state.az.us</a>	<a href="http://www.azleg.state.az.us">http://www.azleg.state.az.us</a>
ARKANSAS		<a href="http://www.arkleg.state.al.us">http://www.arkleg.state.al.us</a>
CALIFORNIA	<a href="http://www.cpuc.ca.gov">http://www.cpuc.ca.gov</a>	<a href="http://www.leginfo.ca.gov">http://www.leginfo.ca.gov</a> <a href="http://www.sen.ca.gov">http://www.sen.ca.gov</a> <a href="http://www.assembly.ca.gov">http://www.assembly.ca.gov</a>
COLORADO	<a href="http://www.puc.state.co.us">http://www.puc.state.co.us</a>	<a href="http://www.state.co.us/gov_dir/stateleg.html">http://www.state.co.us/gov_dir/stateleg.html</a>
CONNECTICUT	<a href="http://www.state.ct.us/dpuc">http://www.state.ct.us/dpuc</a>	<a href="http://www.state.ct.us/ldp">http://www.state.ct.us/ldp</a>
DELAWARE	<a href="http://www.state.de.us/govern/agencies/pubservc/psc.htm">http://www.state.de.us/govern/agencies/pubservc/psc.htm</a>	<a href="http://www.state.de.us/research/dor/lis.htm">http://www.state.de.us/research/dor/lis.htm</a>
FLORIDA	<a href="http://www2.scri.net/psc">http://www2.scri.net/psc</a>	<a href="http://www.leg.state.fl.us">http://www.leg.state.fl.us</a>
GEORGIA	<a href="http://www.state.ga.us/psc">http://www.state.ga.us/psc</a>	<a href="http://www.state.ga.us/Legis">http://www.state.ga.us/Legis</a> <a href="http://www.ganet.org/homepages/senate">http://www.ganet.org/homepages/senate</a>
IDAHO	<a href="http://www.puc.state.id.us">http://www.puc.state.id.us</a>	<a href="http://www.state.id.us/legislat.html">http://www.state.id.us/legislat.html</a>
ILLINOIS	<a href="http://www.state.il.us/icc">http://www.state.il.us/icc</a>	<a href="http://www.state.il.us/legis">http://www.state.il.us/legis</a>
INDIANA	<a href="http://www.state.in.us/iurc/index.html">http://www.state.in.us/iurc/index.html</a>	<a href="http://www.ai.org/legislative">http://www.ai.org/legislative</a>
IOWA	<a href="http://www.state.ia.us/government/com/util/util.htm">http://www.state.ia.us/government/com/util/util.htm</a>	<a href="http://www.legis.state.ia.us">http://www.legis.state.ia.us</a>
KANSAS	<a href="http://www.kcc.state.ks.us">http://www.kcc.state.ks.us</a>	<a href="http://www.state.ks.us/public/legislative">http://www.state.ks.us/public/legislative</a>
LOUISIANA		<a href="http://www.state.la.us/state/legis.htm">http://www.state.la.us/state/legis.htm</a>
MAINE	<a href="http://www.state.me.us/mpuc">http://www.state.me.us/mpuc</a>	<a href="http://www.state.me.us/legis/homepage.htm">http://www.state.me.us/legis/homepage.htm</a>
MARYLAND	<a href="http://www.ari.net/psc">http://www.ari.net/psc</a>	<a href="http://mlis.state.md.us">http://mlis.state.md.us</a>
MASSACHUSETTS	<a href="http://www.magnet.state.ma.us/dpu">http://www.magnet.state.ma.us/dpu</a>	<a href="http://www.state.ma.us/legis/legis.htm">http://www.state.ma.us/legis/legis.htm</a>
MICHIGAN	<a href="http://www.ermisweb.state.mi.us/mpsc">http://www.ermisweb.state.mi.us/mpsc</a>	<a href="http://www.house.state.mi.us">http://www.house.state.mi.us</a> <a href="http://www.coast.net/~misenate/senhp.html">http://www.coast.net/~misenate/senhp.html</a>
MINNESOTA	<a href="http://www.puc.state.mn.us">http://www.puc.state.mn.us</a>	<a href="http://www.leg.state.mn.us">http://www.leg.state.mn.us</a>
MISSISSIPPI	<a href="http://www.mslawyer.com/mpsc/mpsc.html">http://www.mslawyer.com/mpsc/mpsc.html</a>	<a href="http://www.ls.state.ms.us">http://www.ls.state.ms.us</a> <a href="http://billstatus.ls.state.ms.us">http://billstatus.ls.state.ms.us</a>
MISSOURI	<a href="http://www.ecodev.state.mo.us/psc">http://www.ecodev.state.mo.us/psc</a>	<a href="http://www.senate.state.mo.us">http://www.senate.state.mo.us</a> <a href="http://www.house.state.mo.us">http://www.house.state.mo.us</a>
MONTANA	<a href="http://www.psc.mt.gov">http://www.psc.mt.gov</a>	<a href="http://www.mt.gov/leg/branch/branch.htm">http://www.mt.gov/leg/branch/branch.htm</a>
NEBRASKA	<a href="http://www.nol.org/home/npsc">http://www.nol.org/home/npsc</a>	<a href="http://unicam1.lcs.state.ne.us">http://unicam1.lcs.state.ne.us</a>
NEVADA	<a href="http://www.state.nv.us/psc">http://www.state.nv.us/psc</a>	<a href="http://www.leg.state.nv.us">http://www.leg.state.nv.us</a>

STATE	REGULATORY AGENCY	STATE LEGISLATURE
NEW HAMPSHIRE	<a href="http://www.state.nh.us/puc/puc.html">http://www.state.nh.us/puc/puc.html</a>	<a href="http://www.state.nh.us/gencourt/gencourt.htm">http://www.state.nh.us/gencourt/gencourt.htm</a>
NEW JERSEY	<a href="http://www.njin.net/njbpu">http://www.njin.net/njbpu</a>	<a href="http://www.njleg.state.nj.us">http://www.njleg.state.nj.us</a>
NEW MEXICO	<a href="http://www.puc.state.nm.us">http://www.puc.state.nm.us</a> <a href="http://www.state.nm.us/scc">http://www.state.nm.us/scc</a>	<a href="http://www.nm.org">http://www.nm.org</a>
NEW YORK	<a href="http://www.dps.state.ny.us">http://www.dps.state.ny.us</a>	<a href="http://www.senate.state.ny.us">http://www.senate.state.ny.us</a> <a href="http://assembly.state.ny.us">http://assembly.state.ny.us</a>
NORTH CAROLINA		<a href="http://www.ncga.state.nc.us">http://www.ncga.state.nc.us</a>
NORTH DAKOTA	<a href="http://pc6.psc.state.nd.us">http://pc6.psc.state.nd.us</a>	<a href="http://www.state.nd.us/lr">http://www.state.nd.us/lr</a>
OHIO	<a href="http://www.puc.ohio.gov">http://www.puc.ohio.gov</a>	<a href="http://www.state.oh.us/ohio/legislat.htm">http://www.state.oh.us/ohio/legislat.htm</a>
OKLAHOMA	<a href="http://www.occ.state.ok.us">http://www.occ.state.ok.us</a>	<a href="http://www.lsb.state.ok.us">http://www.lsb.state.ok.us</a>
OREGON	<a href="http://www.puc.state.or.us">http://www.puc.state.or.us</a>	<a href="http://www.leg.state.or.us">http://www.leg.state.or.us</a>
PENNSYLVANIA	<a href="http://www.state.pa.us/PA_Exec/Public_Utility">http://www.state.pa.us/PA_Exec/ Public_Utility</a>	<a href="http://www.pasen.gov">http://www.pasen.gov</a>
RHODE ISLAND	<a href="http://ripuc.org">http://ripuc.org</a>	<a href="http://www.rilin.state.ri.us">http://www.rilin.state.ri.us</a>
SOUTH CAROLINA		<a href="http://www.leginfo.state.sc.us">http://www.leginfo.state.sc.us</a>
SOUTH DAKOTA	<a href="http://www.state.sd.us/state/executive/puc">http://www.state.sd.us/state/executive/puc</a>	<a href="http://www.state.sd.us/lrc.htm">http://www.state.sd.us/lrc.htm</a>
TENNESSEE	<a href="http://www.state.tn.us/tra/tra">http://www.state.tn.us/tra/tra</a>	<a href="http://www.legislature.state.tn.us">http://www.legislature.state.tn.us</a>
TEXAS	<a href="http://www.puc.texas.gov">http://www.puc.texas.gov</a>	<a href="http://www.capitol.state.tx.us">http://www.capitol.state.tx.us</a> <a href="http://www.house.state.tx.us">http://www.house.state.tx.us</a> <a href="http://www.senate.state.tx.us">http://www.senate.state.tx.us</a>
UTAH	<a href="http://www.state.ut.us/bbs/psc/brdm.htm">http://www.state.ut.us/bbs/psc/brdm.htm</a>	<a href="http://www.le.state.ut.us">http://www.le.state.ut.us</a>
VERMONT	<a href="http://www.state.vt.us/psb">http://www.state.vt.us/psb</a>	<a href="http://www.leg.state.vt.us">http://www.leg.state.vt.us</a>
VIRGINIA	<a href="http://dit1.state.va.us/scc">http://dit1.state.va.us/scc</a>	<a href="http://legis.state.va.us">http://legis.state.va.us</a>
WASHINGTON	<a href="http://www.washington.edu/wutc">http://www.washington.edu/wutc</a>	<a href="http://www.leg.wa.gov">http://www.leg.wa.gov</a>
WEST VIRGINIA		<a href="http://www.wvlc.wvnet.edu/legishp.html">http://www.wvlc.wvnet.edu/legishp.html</a>
WISCONSIN	<a href="http://badger.state.wi.us/agencies/psc">http://badger.state.wi.us/agencies/psc</a>	<a href="http://www.legis.state.wi.us">http://www.legis.state.wi.us</a>
WYOMING	<a href="http://psc.state.wy.us">http://psc.state.wy.us</a>	<a href="http://legisweb.state.wy.us">http://legisweb.state.wy.us</a>